

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMPHENOL CORP.,
Petitioner

v.

PPC BROADBAND, INC.,
Patent Owner

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

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 9,008,483**

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	SUMMARY OF THE '483 PATENT.....	1
	A. THE '483 PATENT'S ALLEGED INVENTION	1
	B. THE '483 PATENT'S PROSECUTION	4
	C. THE <i>ADVANCED BIONICS</i> FRAMEWORK FAVORS INSTITUTION	5
	D. A PERSON OF ORDINARY SKILL IN THE ART.....	7
III.	REQUIREMENTS FOR IPR UNDER 37 C.F.R. § 42.104	8
	A. GROUNDS FOR STANDING UNDER 37 C.F.R. § 42.104(A)	8
	B. IDENTIFICATION OF CHALLENGES UNDER 37 C.F.R. § 42.104(B) AND RELIEF REQUESTED	8
	C. CLAIM CONSTRUCTION UNDER 37 C.F.R. § 42.104(B)(3).....	9
IV.	PRIOR ART	16
	A. OVERVIEW OF HOLMBERG	16
	B. OVERVIEW OF BATTEY	19
	C. OVERVIEW OF BLANKENSHIP	20
	D. OVERVIEW OF COWEN	21
V.	GROUND 1: CLAIMS 1 AND 11 ARE OBVIOUS OVER <i>HOLMBERG</i> IN VIEW OF <i>BATTEY</i>	22
	A. CLAIM 1(PRE): A DROP INTERFACE BOX CONFIGURED TO BE MOUNTED TO A STRUCTURE AND TO RECEIVE A DROP CABLE FROM AN OPTICAL FIBER SERVICE PROVIDER DISTRIBUTION POINT AND A PLURALITY OF DISTRIBUTION CABLES WHICH DISTRIBUTE THE OPTICAL FIBER SERVICE, THE DROP INTERFACE BOX COMPRISING:.....	23
	B. CLAIM 1(A): A BASE UNIT HAVING A DROP CABLE ENTRANCE CONFIGURED TO RECEIVE THE DROP CABLE AND HAVING DROP CABLE RETAINING MECHANISMS SPACED APART AND CONFIGURED TO RETAIN A LENGTH OF DROP CABLE LOOPED AROUND THE DROP CABLE RETAINING MECHANISMS;	29
	C. CLAIM 1(B): A COVER HAVING A HINGED CONNECTION TO THE BASE UNIT TO SELECTIVELY ENCLOSE A STORAGE AREA PROVIDED IN THE BASE UNIT; AND	32

D.	CLAIM 1(C): 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 SUCH THAT THE FIBER STORAGE PANEL IS MOVEABLE RELATIVE TO THE BASE UNIT AND CONFIGURED TO BE STORED BETWEEN THE BASE UNIT AND THE COVER, ...	35
1.	<i>Holmberg's Teachings</i>	35
2.	<i>Battey's Teachings</i>	39
3.	<i>Motivation to Combine Holmberg and Battey</i>	40
E.	CLAIM 1(D): 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.	44
1.	<i>The '483 Patent's Spools</i>	44
2.	<i>Holmberg's Teachings – Spools</i>	46
3.	<i>Holmberg's Terminated Fibers and First Spools</i>	49
4.	<i>Plurality of Distribution Cables and Second Spools</i>	55
F.	CLAIM 11: THE DROP INTERFACE BOX OF CLAIM 1, WHEREIN THE DROP CABLE ENTRANCE FURTHER COMPRISES SLOTS FORMED IN THE BASE UNIT AND CONFIGURED TO RECEIVE A CABLE CLIP WHICH CLIPS OVER THE DROP CABLE, THE SLOTS AND THE CABLE CLIP FORMING A SUBSTANTIALLY WEATHER TIGHT SEAL WITH THE BASE UNIT.	59
VI.	GROUND 2: CLAIMS 2, 12, AND 13 ARE OBVIOUS OVER HOLMBERG, BATTEY, AND BLANKENSHIP	62
A.	CLAIM 2: THE DROP INTERFACE BOX OF CLAIM 1, 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.....	62
B.	CLAIM 12: THE DROP INTERFACE BOX OF CLAIM 11, AND FURTHER COMPRISING A STRAIN-RELIEF CLAMP COUPLED TO THE BASE UNIT PROXIMATE THE DROP CABLE ENTRANCE.	66

C.	CLAIM 13: THE DROP INTERFACE BOX OF CLAIM 1, AND FURTHER COMPRISING A SECURITY MECHANISM FOR SECURING THE COVER TO THE BASE UNIT IN A CLOSED POSITION.	69
VII.	GROUND 3: CLAIMS 1-2, 11-13 ARE OBVIOUS OVER <i>HOLMBERG, BATTEY, AND BLANKENSHIP</i>.....	73
A.	CLAIM 1(PRE): A DROP INTERFACE BOX CONFIGURED TO BE MOUNTED TO A STRUCTURE AND TO RECEIVE A DROP CABLE FROM AN OPTICAL FIBER SERVICE PROVIDER DISTRIBUTION POINT AND A PLURALITY OF DISTRIBUTION CABLES WHICH DISTRIBUTE THE OPTICAL FIBER SERVICE, THE DROP INTERFACE BOX COMPRISING:.....	73
B.	CLAIM 1(A): A BASE UNIT HAVING A DROP CABLE ENTRANCE CONFIGURED TO RECEIVE THE DROP CABLE AND HAVING DROP CABLE RETAINING MECHANISMS SPACED APART AND CONFIGURED TO RETAIN A LENGTH OF DROP CABLE LOOPED AROUND THE DROP CABLE RETAINING MECHANISMS;	75
1.	<i>Holmberg’s Teachings</i>	76
2.	<i>Blankenship’s Teachings</i>	76
3.	<i>Motivation to Combine Holmberg and Blankenship</i>	78
C.	CLAIM 1(B)	80
D.	CLAIM 1(C)	81
E.	CLAIM 1(D)	81
F.	CLAIM 2	81
G.	CLAIM 11	81
H.	CLAIM 12	81
I.	CLAIM 13	81
VIII.	FOUNDATIONS 4 AND 5: CLAIM 10 IS OBVIOUS OVER <i>HOLMBERG, BATTEY, AND COWEN</i> OR OVER <i>HOLMBERG, BATTEY, BLANKENSHIP</i> AND <i>COWEN</i>.....	81
1.	<i>Holmberg’s Teachings</i>	82
2.	<i>Cowen’s Teachings</i>	84
3.	<i>Motivation to Combine Holmberg-Battey and Cowen</i>	87
IX.	Fintiv	88
A.	STAY.....	88
B.	PROXIMITY OF THE COURT’S TRIAL DATE	89

C.	INVESTMENT IN PARALLEL PROCEEDING	89
X.	CONCLUSION.....	90
XI.	MANDATORY NOTICES.....	91
A.	REAL PARTY-IN-INTEREST.....	91
B.	RELATED MATTERS	91
C.	LEAD AND BACK-UP COUNSEL	92

TABLE OF AUTHORITIES

Cases:

<i>10x Genomics, Inc. v. Bio-Rad Lab 'ys, Inc.</i> , No. IPR2020-00086, 2020 WL 2026683 (P.T.A.B. Apr. 27, 2020)	9, 10
<i>Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH</i> , IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020).....	6
<i>Apple Inc. v. Fintiv, Inc.</i> , IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential)	88
<i>Becton, Dickinson & Co. v. B. Braun Melsungen AG</i> , IPR2017-01586, Paper 8 (Dec. 15, 2017)	6
<i>Hologic, Inc. v. Enzo Life Sciences, Inc.</i> , Case IPR2018-00019, slip op. (PTAB Nov. 28, 2018) (Paper 21).....	10
<i>Intel Corp. v. PACT XPP Schweiz AG</i> , No. 22-1037 (Fed. Cir. Mar. 13, 2023)....	41
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) (<i>en banc</i>).....	9, 16
<i>Thorne Research, Inc., v. Trustees of Dartmouth College</i> , IPR2021-00491, Paper 18 (PTAB Aug. 12, 2021).....	7
<i>Western Digital Corp. v. SPEX Techs., Inc.</i> , Case IPR2018-00084, slip op. (PTAB Apr. 25, 2018) (Paper 14)	10

Statutes:

35 U.S.C. § 102(b) (pre-AIA)	18, 21, 22
35 U.S.C. § 102(e) (pre-AIA)	23
35 U.S.C. § 103(a) (pre-AIA)	5, 8
35 U.S.C. § 312(a)(2)	91
35 U.S.C. § 314(a).....	90
35 U.S.C. § 325(d)	5, 6, 7

Regulations:

37 C.F.R. § 42.100(b).....	9
37 C.F.R. § 42.104(a).....	8
37 C.F.R. § 42.104(b).....	8
37 C.F.R. § 42.104(b)(3)	9
37 C.F.R. § 42.104(b)(4)	8
37 C.F.R. § 42.104(b)(5)	8
37 C.F.R. § 42.105	97
37 C.F.R. § 42.24	96
37 C.F.R. § 42.8	91

37 C.F.R. § 42.8(a)(1)	91
37 C.F.R. § 42.8(b)(1)	91
37 C.F.R. § 42.8(b)(2)	91
37 C.F.R. § 42.8(b)(3)	92
37 C.F.R. § 42.8(b)(4)	92
37 C.F.R. §§ 42.6(e)	97
83 Fed. Reg. 197 (Oct. 11, 2018)	9

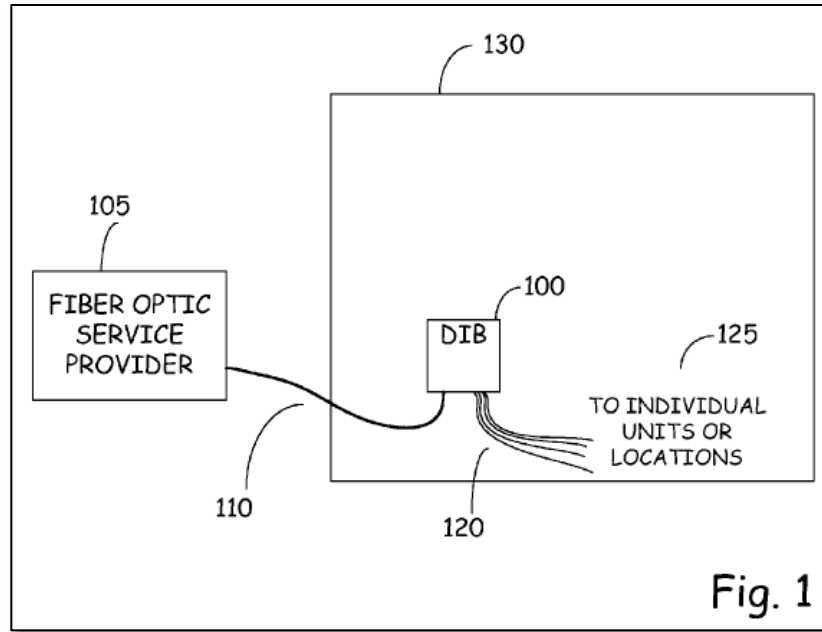
I. INTRODUCTION

Petitioner Amphenol Corp. (“Petitioner”) requests *Inter Partes* Review (“IPR”) of Claims 1, 2, and 10-13 (collectively, the “Challenged Claims”) of U.S. Patent No. 9,008,483 (the “’483 Patent”) (Ex. 1001).

II. SUMMARY OF THE ’483 PATENT

A. The ’483 Patent’s Alleged Invention

The ’483 Patent describes “a drop interface box (DIB) for interfacing between an optical network service provider’s heavy jacketed drop cable and optical distribution cables at a premises.” ’483 *Patent*, 2:3-6, 1:28-38 (explaining that optical fiber is increasingly being delivered all the way to a customer’s premises), 3:19-22 (“DIB 100 mounts at a desired location of a premises 130, which will typically be a multi-dwelling or multi-business type of premises in which multiple individual living spaces or units are included in a single larger building.”). Fig. 1 depicts this general arrangement:



'483 Patent, Fig. 1.

A key premise underlying the '483 Patent disclosure is the desire to accommodate pre-connectorized drop cables that cannot be cut to custom lengths, which obligated the installer to deal with excess cable from the service provider:

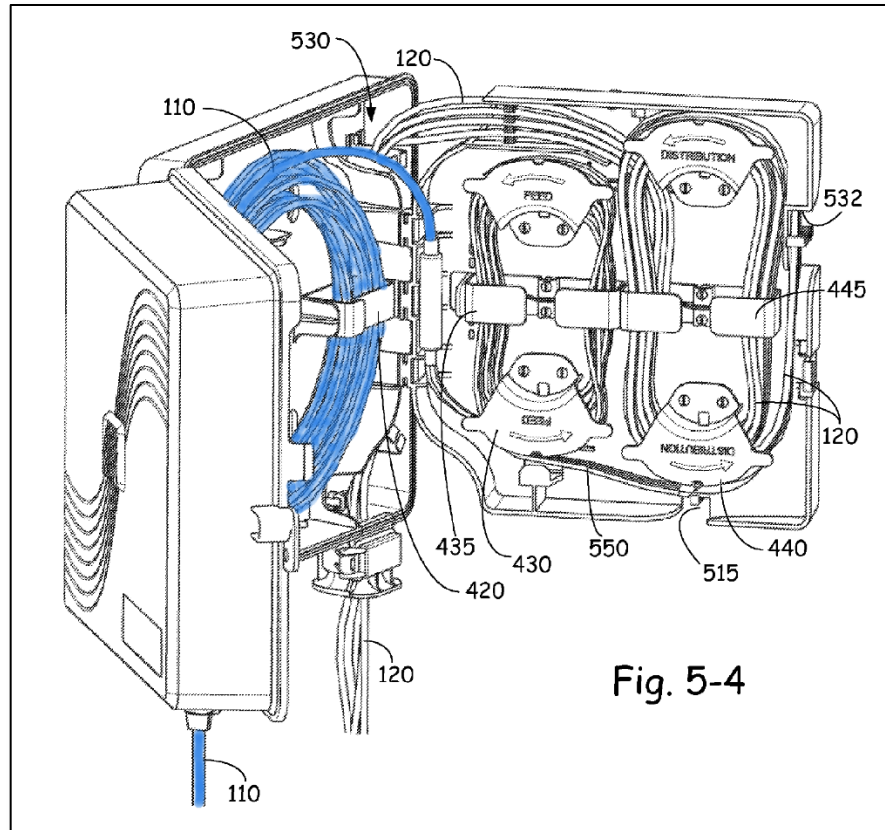
Increasingly, **optical fiber cables are pre-connectorized¹**—that is they are shipped from a factory **with terminating connectors already installed**. This can lead to the **need for installers to deal with excess optical fiber cable length** in many instances. Other factors can also result in excess cable length. **Storage of the excess cable length can be problematic[.]**

'483 Patent, 1:50-59.

¹ All emphases are added unless specified otherwise.

The '483 Patent explains that these drop cables were also protected by an external jacket and bound by minimum bend radius to protect the internal optical fibers. *'483 Patent*, 1:42-43 (noting the drop cable is “a **heavy jacketed** or **hardened** multi-fiber cable”), 2:3-6 (“Disclosed are exemplary embodiments of a drop interface box (DIB) for interfacing between an optical network service provider’s **heavy jacketed drop cable** and optical distribution cables at a premises.”), 5:21-29 (describing mechanisms to “retain coils of the **outdoor jacketed** feeder cable without unnecessary stress on the cable or violating minimum bend radius”). Indeed, it is an important feature of the '483 Patent that its DIB “provides organized drop, feed and distribution fiber cable storage” *and* “maintains minimum bend radius of the cables and inhibits cable strain.” *'483 Patent*, 2:6-10.

Because the drop cables are pre-connectorized and cannot be cut to custom lengths, the '483 Patent consistently describes and illustrates a drop cable that retains its external jacket as it enters and is routed within the DIB. For example, Fig. 5-4 below depicts drop cable 110 retaining its external jacket as it enters DIB 100 and is looped around drop cable storage clips 420:



'483 Patent, Fig. 5-4 (annotated). The Challenged Claims reflect this arrangement, reciting a DIB that receives a drop cable from the service provider and routes that same drop cable internally. *See, e.g., '483 Patent*, Claim 1 (reciting “a base unit having a drop cable entrance **configured to receive the drop cable** and **having drop cable retaining mechanisms** spaced apart and **configured to retain a length of drop cable** looped around the drop cable retaining mechanisms”).

B. The '483 Patent's Prosecution

The application that resulted in the '483 Patent was filed April 5, 2012, issued on April 14, 2015, and claims priority to a provisional application filed April 5, 2011.

'483 Patent, (22), (45), (60). For purposes of this petition only, Petitioner applies April 5, 2011 as the priority date for the Challenged Claims.

During prosecution, the examiner issued a non-final office action, rejecting original claims 1-4 and 11-14 as unpatentable under pre-AIA 35 U.S.C. § 103(a) over US 2009/0202214 to Holmberg et al. ("*Holmberg*"). '483 FH (Ex. 1002), 232. In response, Applicant amended the claims to require 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 such that the fiber storage panel is" moveable relative to the base unit. '483 FH, 247, 253-256 (suggesting that *Holmberg* taught away from such a hinged arrangement).

In a Notice of Allowability, the examiner noted that *Holmberg* failed to disclose or render obvious the amended claim language. '483 FH, 285. The examiner did not address Applicant's suggestion that *Holmberg* taught away from the amended claim language. Instead, the record reflects that amended claims were allowed because no art of record disclosed the opposing hinge arrangement required of the amended claims.

C. The *Advanced Bionics* Framework Favors Institution

Under 35 U.S.C. § 325(d), the Board has discretion to deny institution if it determines that the same or substantially the same prior art or arguments were previously presented to the Office. The analysis is governed by the two-part

framework set forth in *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential). Part one considers whether the same or substantially the same prior art or arguments were previously presented to the office—*Becton* factors (a), (b), and (d). *Id.*; *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8, 17-18 (Dec. 15, 2017).

Here, the first part of this framework—collectively, factors (a), (b), and (d)—is not satisfied, so the Board should decline to exercise its discretion under § 325(d). As set forth below, all three proposed grounds herein rely on U.S. Patent Application No. 2009/0202214 to Holmberg et al. (“*Holmberg*”)—the same *Holmberg* reference substantively discussed during prosecution.² *See generally* ’483 FH. Importantly, all three grounds also rely critically on U.S. Patent Pub. 2008/0112681 to Battey et al. (“*Battey*”)—a reference that was not cited during prosecution and supplies teachings the examiner deemed lacking from the art of record. ’483 FH, 285 (notice of allowability). Indeed, the proposed grounds rely on *Battey* for the hinged fiber storage panel limitation, which was added by amendment, purportedly

² Grounds 2 and 3 further rely on U.S. Patent No. 6,721,484 to Blankenship et al. (“*Blankenship*”), which was cited, but not substantively discussed during prosecution.

distinguishing the art of record and leading to the patent's issuance. '483 FH, 247, 253-256.

That the combination discloses the purported point of novelty provides strong evidence of a material difference between the asserted art and the prior art of the examination. *Thorne Research, Inc., v. Trustees of Dartmouth College*, IPR2021-00491, Paper 18, 7-9 (PTAB Aug. 12, 2021) (“[t]he fact that one piece of art from the combination was previously presented and/or argued to the Office alone is insufficient to satisfy the first prong of *Advanced Bionics*[,]” granting institution where non-cited/considered references were presented in combination with a considered reference and refusing to consider part two of *Advanced Bionics* on this basis). Accordingly, the Office cannot be deemed to have considered the “same or substantially the same” art or arguments within the meaning of § 325(d).

D. A Person of Ordinary Skill in the Art

A person of ordinary skill in the art (“POSITA”) at the time of the '483 Patent would have had at least a bachelor's degree in electrical engineering, computer engineering, or a related field, and at least 1 year of experience related to communication networks or the equivalent. Additional education could substitute

for professional experience or significant experience in the field could substitute for formal education. *Dec.*³ (Ex. 1003), ¶¶29-31.

III. REQUIREMENTS FOR IPR UNDER 37 C.F.R. § 42.104

A. Grounds for Standing Under 37 C.F.R. § 42.104(a)

Petitioner certifies the '483 Patent is available for IPR and Petitioner is not barred or estopped from requesting IPR challenging the claims of the '483 Patent.

B. Identification of Challenges Under 37 C.F.R. § 42.104(b) and Relief Requested

Petitioner requests the Challenged Claims be found unpatentable on the following grounds:

Proposed Grounds of Unpatentability	
<u>Ground 1</u>	Claims 1 and 11 are obvious under pre-AIA 35 U.S.C. § 103(a) over <i>Holmberg</i> in view of <i>Battey</i>
<u>Ground 2</u>	Claims 2, 12-13 are obvious under pre-AIA 35 U.S.C. § 103(a) over <i>Holmberg</i> in view of <i>Battey</i> and <i>Blankenship</i>
<u>Ground 3</u>	Claims 1-2, 11-13 are obvious under pre-AIA 35 U.S.C. § 103(a) over <i>Holmberg</i> in view of <i>Battey</i> and <i>Blankenship</i>
<u>Grounds 4-5</u>	Claim 10 is obvious under pre-AIA 35 U.S.C. § 103(a) over <i>Holmberg</i> in view of <i>Battey</i> and <i>Cowen</i> or <i>Holmberg</i> in view of <i>Battey</i> , <i>Blankenship</i> and <i>Cowen</i>

Sections V-VIII identify where each element of the Challenged Claims is found in the prior art. 37 C.F.R. § 42.104(b)(4). The exhibit numbers of the

³ All citations to “*Dec.*” are to paragraph numbers in Ex. 1003—the Declaration of Dr. Sayfe Kiaei.

supporting evidence relied upon to support the challenges are provided in the Appendix of Exhibits, and the relevance of the evidence to the challenges raised are provided in Sections V-VIII. 37 C.F.R. § 42.104(b)(5). Exhibits 1001–1020 are also attached.

C. Claim Construction Under 37 C.F.R. § 42.104(b)(3)

In this proceeding, claims are interpreted under the same standard applied by Article III courts (*i.e.*, the *Phillips* standard). *See* 37 C.F.R. § 42.100(b); *see also* 83 Fed. Reg. 197 (Oct. 11, 2018); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*). Under this standard, words in a claim are given their plain and ordinary meaning as understood by a POSITA in view of the patent and file history. *Phillips*, 415 F.3d at 1312-13.

In prior decisions, the Board has permitted petitioners to present alternative claim constructions, including a *primary* construction that stays true to the intrinsic record and an *alternative* construction the petitioner attributes to *patent owner* based on its infringement contentions in the parallel litigation. *See generally 10x Genomics, Inc. v. Bio-Rad Lab'ys, Inc.*, No. IPR2020-00086, 2020 WL 2026683 (P.T.A.B. Apr. 27, 2020) (emphasis added). “The rule[s] do[] not prohibit Petitioner from submitting a claim construction it believes is incorrect and relying on that construction to show how the claim is unpatentable.” *10x Genomics, Inc.*, No. IPR2020-00086, 2020 WL 2026683, at *7. A Petitioner may satisfy 37 C.F.R. §

42.104(b)(3) “by identifying claim constructions it proposes as the basis for requesting review of the challenged claims[,]” without “express[ing] its subjective agreement regarding correctness of its proffered claim constructions or [] tak[ing] ownership of those constructions.” *Hologic, Inc. v. Enzo Life Sciences, Inc.*, Case IPR2018-00019, slip op. at 5 (PTAB Nov. 28, 2018) (Paper 21) (quoting *Western Digital Corp. v. SPEX Techs., Inc.*, Case IPR2018-00084, slip op. at 11 (PTAB Apr. 25, 2018) (Paper 14).

Here, Petitioner presents alternative interpretations of the claimed “drop cable.” As set forth above in Section II.A, it is an important feature of the ’483 Patent that an externally jacketed, multi-fiber optical cable is received by the DIB and routed internally within the DIB while accommodating the minimum bend radius of the jacketed cable. Each of the Challenged Claims recite a DIB that receives such a “drop cable” and routes that same “drop cable” internally. Yet Patent Owner contends in the parallel litigation that the drop cable may be received by the DIB, its external jacket removed, and the internal optical fibers individually routed within the DIB.

As set forth below, Petitioner advances grounds under both interpretations of “drop cable.” Separate obviousness grounds are presented (1) to capture a *first construction*, which requires the drop cable retain its external jacket as it is routed internally, and (2) to capture a broader *second construction*, consistent with Patent

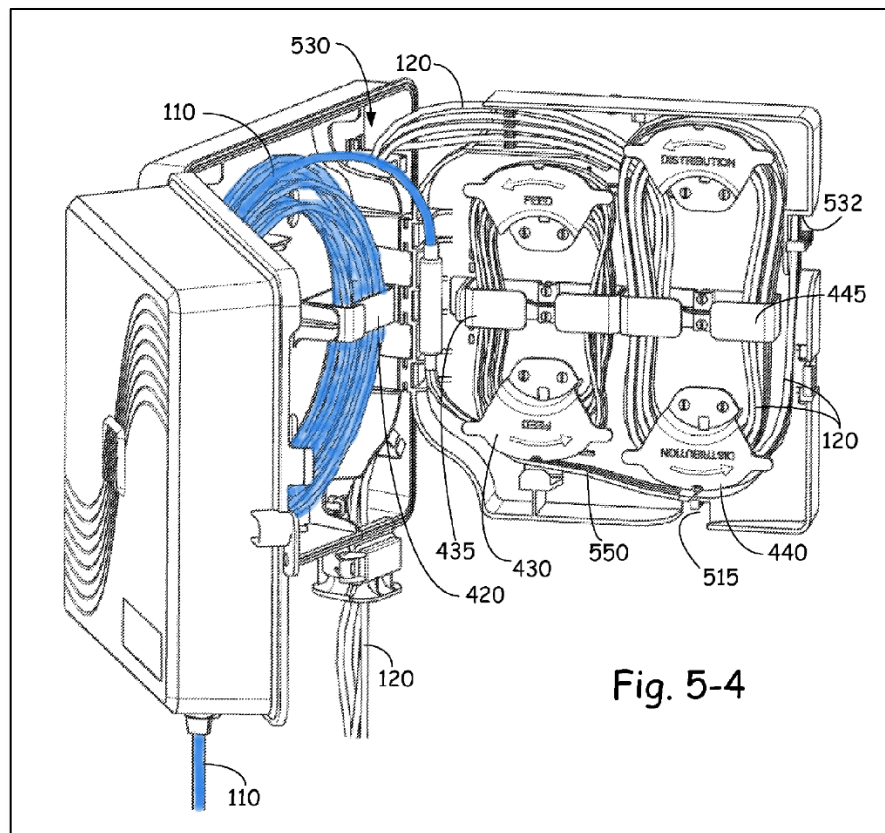
Owner's infringement allegations, which allows the external jacket to be removed as the drop cable enters the DIB and the fibers routed inside the box without the external jacket.

The intrinsic record provides ample support for Petitioner's *first construction* of "drop cable." Indeed, the '483 Patent describes a drop cable⁴ as a collection of optical fibers encased in an external jacket, e.g., being "heavy jacketed" or "hardened" or including an "outdoor jacket." *'483 Patent*, 1:15-19, 1:39-44, 2:3-6, 3:9-12, 3:24-29. The patent also explains that these externally jacketed cables must maintain a minimum bend radius to avoid damaging the internal fibers. *'483 Patent*, 5:21-29. A key premise underlying the '483 Patent disclosure is the desire to accommodate pre-connectorized drop cables that cannot be cut to custom lengths, which obligated the installer to deal with excess cable from the service provider. *'483 Patent*, 1:50-59. Accordingly, it is an important feature of the '483 Patent that its DIB "provides organized drop, feed and distribution fiber cable storage" *and*

⁴ For clarity, Petitioner describes the distinction between the parties' respective interpretations as turning on the distinction between (1) a drop cable that retains its jacket when routed inside the box and (2) a drop cable that has its jacket removed as it enters the box. Petitioner reserves the right to advance a more specific construction of drop cable in the parallel litigation or any other proceeding.

“maintains minimum bend radius of the cables and inhibits cable strain.” ’483 Patent, 2:6-10.

Because the drop cables are pre-connectorized and cannot be cut to custom lengths in the field (e.g., during installation), the ’483 Patent consistently describes and illustrates a drop cable that retains its external jacket as it enters and is routed within the DIB. For example, Fig. 5-4 below depicts drop cable 110 retaining its external jacket as it is looped around drop cable storage clips 420:



’483 Patent, Fig. 5-4 (annotated). This arrangement is also reflected in the Challenged Claims, which each recite a DIB that receives a drop cable from the service provider and routes that same drop cable internally. See, e.g., ’483 Patent,

Claim 1. Consistent with this intrinsic record, Petitioner advances a *first construction* of “drop cable” that demands the external jacket is retained as the “drop cable” is received by the DIB and routed internally.

In parallel litigation, Patent Owner takes a broader view of drop cable, asserting that the Challenged Claims capture scenarios in which the external jacket is removed when the drop Cable enters the DIB. As depicted below from Patent Owner’s infringement contentions, the black, outdoor/heavy jacketed portion of the cable is stripped immediately inside the box and its optical fiber components (that were previously protected by the external jacket) are routed inside the box:



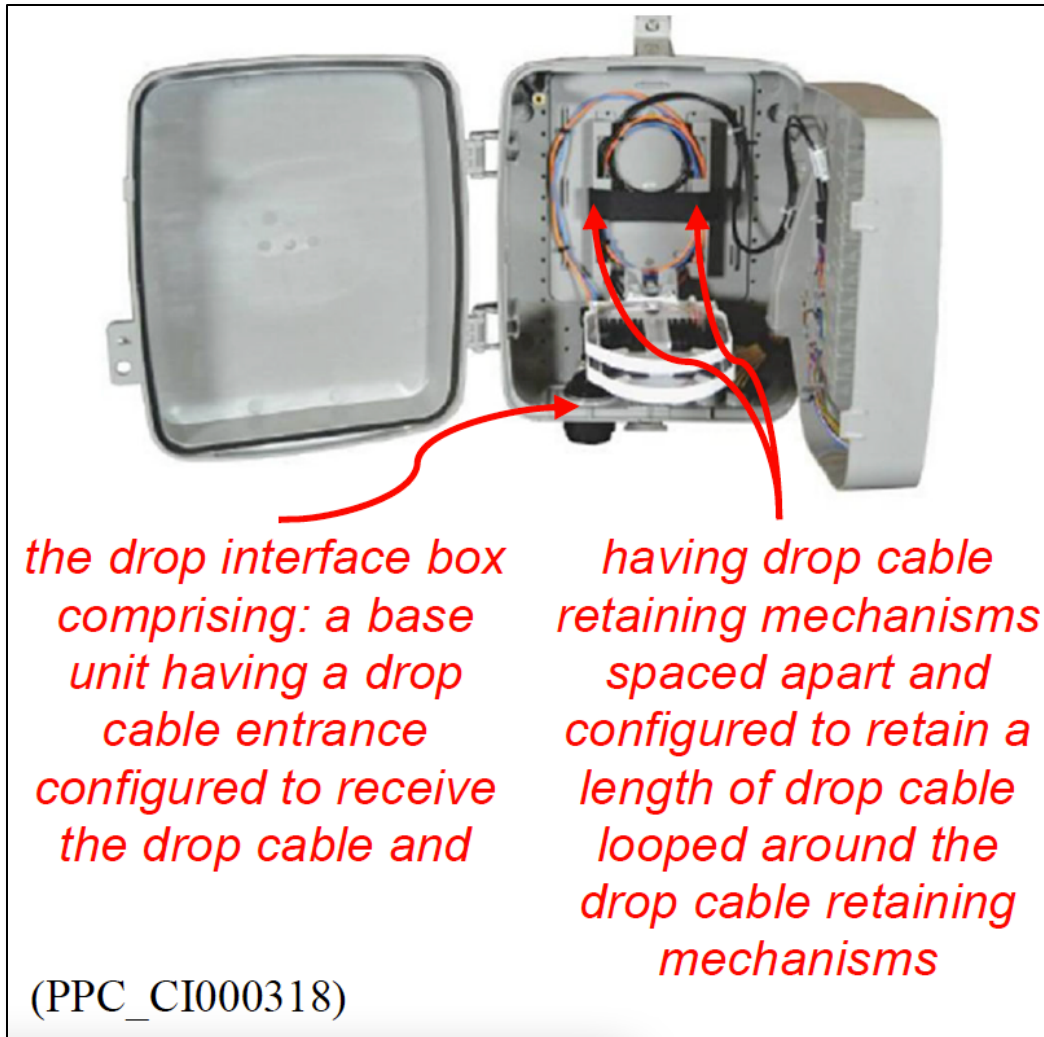
Figure 10
**Routing Feed Cable Through Port
Plate**

PPC Infringement Contentions (Ex. 1016), 12.



Figure 16
Complete Buffer Tube Routing

PPC Infringement Contentions, 13. As illustrated below, Patent Owner expressly identifies these individual optical fiber components—that have had their external jacket removed—as the claimed drop cable:



PPC Infringement Contentions, 12. Accordingly, Petitioner advances solely for the purposes of this IPR a ***second construction*** of “drop cable” that tracks Patent Owner’s interpretation of its own patent, allowing for the external jacket to be removed as the “drop cable” is received by the DIB and allows for the internal optical fiber components (that were previously protected by the external jacket) to be routed inside the DIB.

Grounds 1 and 2 present prior art that satisfies the broader *second construction* of “drop cable,” and Ground 3 presents prior art that satisfies the narrower *first construction* of “drop cable.”

Petitioner submits that all other claim terms be given their plain and ordinary meaning consistent with the *Phillips* standard.

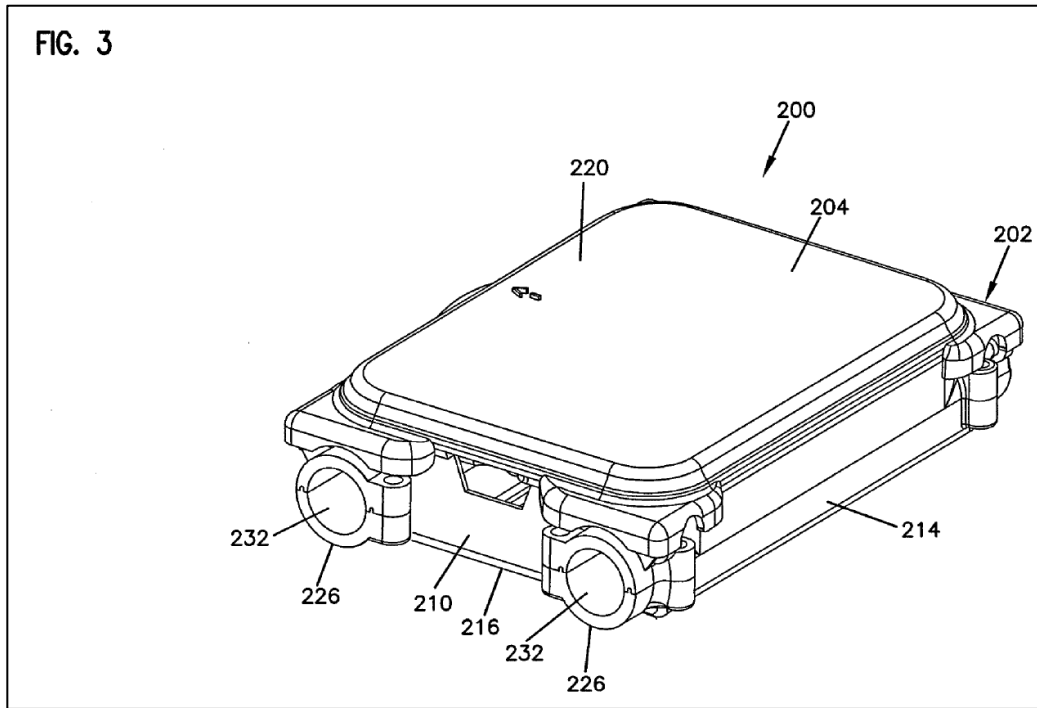
IV. PRIOR ART

A. Overview of Holmberg

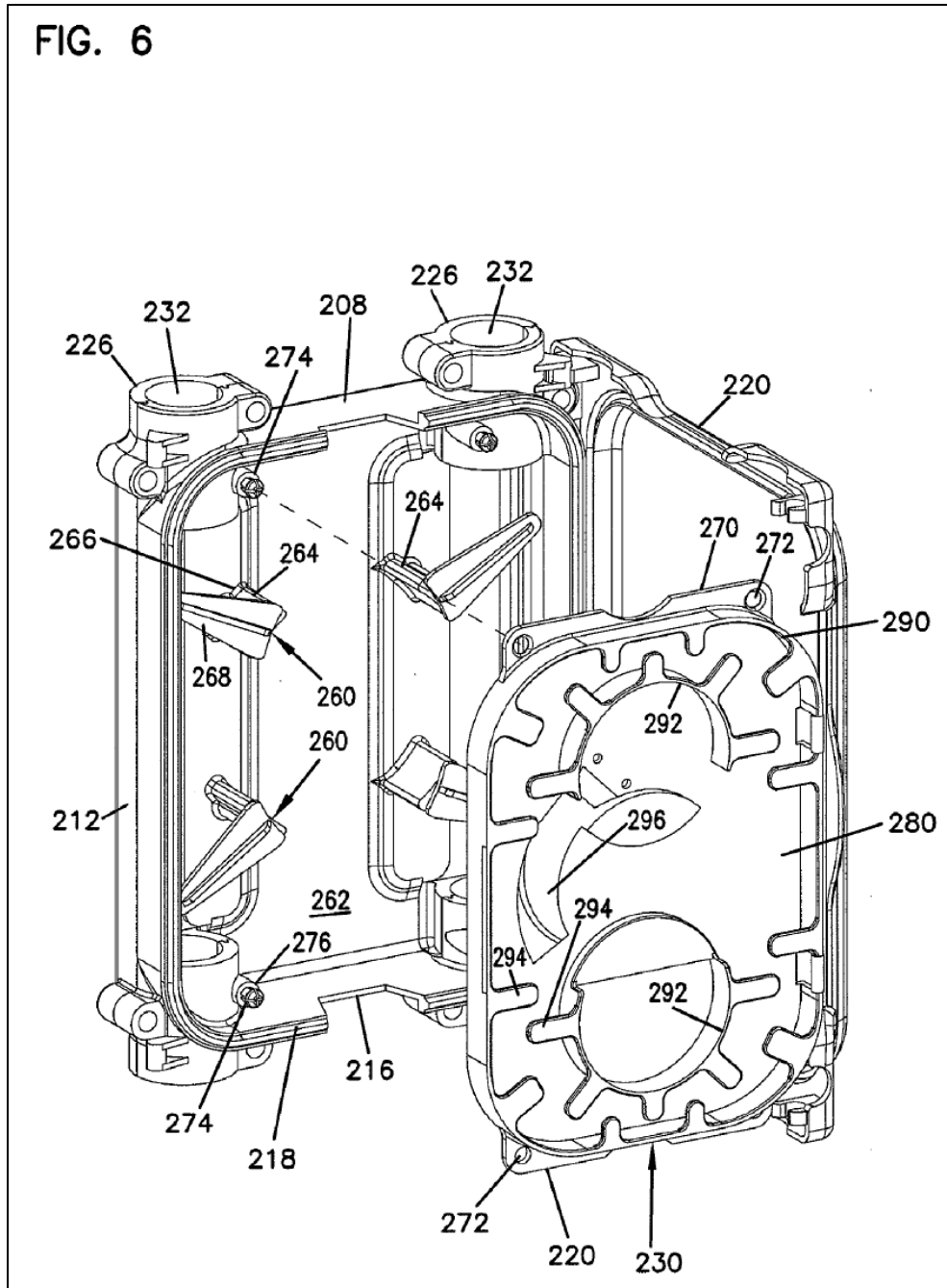
U.S. Patent Application Publication No. 2009/0202214 to Holmberg et al. (“*Holmberg*”) was filed December 11, 2008, published August 13, 2009, and therefore qualifies as prior art to the ’483 Patent under at least 35 U.S.C. § 102(b) (pre-AIA).

Holmberg teaches network deploying fiber optic lines and a wall box for indoor or outdoor applications where said wall box stores fiber optic cables. *Holmberg*, [0003]-[0004], [0010]-[0011], [0034]-[0035], [0051]-[0053], Figs. 1-2, 6. Specifically, *Holmberg* teaches said wall box is configured to be mounted to a structure and includes an entrance for a jacketed cable (“drop cable”). *Holmberg*, [0051], [0055]. *Holmberg* teaches said wall box has a hinged connection between a cover and a main body. *Holmberg*, [0038]-[0039], Figs. 4, 10. Further, *Holmberg* teaches storing optical fiber cables within said wall box including using spools and

providing strain relief and a minimum bend radius. *Holmberg*, [0041], [0043], [0045], [0053], Figs. 6-7.



Holmberg, Fig. 3.



Holmberg, Fig. 6.

Both *Holmberg* and the '483 Patent are directed to systems including an enclosure for connecting “an optical fiber feed or ‘drop’ cable from an optical fiber service provider to a distribution point[.]” '483 Patent, 1:15-17, 1:19-21; *Holmberg*,

[0003]-[0004], [0010]-[0011], [0034]-[0035], [0051]-[0053], Figs. 1-2, 6. Specifically, both *Holmberg* and the '483 Patent are directed towards “a drop interface box (DIB) for interfacing between an optical network service provider’s heavy jacketed drop cable and optical distribution cables at a premises.” ’483 Patent, 2:3-6; *Holmberg*, [0003]-[0004], [0006], [0034]-[0035], [0051]-[0053], Figs. 1-2, 6. As such, *Holmberg* is in the same field of endeavor as the '483 Patent. *Dec.*, ¶¶55-57.

Additionally, *Holmberg*, like the '483 Patent, is directed to the problem of storing cables within an enclosure including using spools for storing said cables and providing strain relief and a minimum bend radius to prevent damaging said cables. Thus, *Holmberg* is reasonably pertinent to a problem described by the '483 Patent. *Compare Holmberg*, [0041], [0043], [0045], [0052]-[0053], *with '483 Patent*, 5:21-26, 5:34-43, Fig. 5-4; *Dec.*, ¶¶55-57.

Therefore, *Holmberg* is analogous art to the '483 Patent.

B. Overview of Battey

U.S. Patent Application Publication No. 2008/0112681 to Battey et al. (“*Battey*”) was filed January 11, 2008, published May 15, 2008, and therefore qualifies as prior art to the '483 Patent under at least 35 U.S.C. § 102(b) (pre-AIA). *Battey* was neither cited nor considered during prosecution of the '483 Patent. *See generally '483 FH.*

Both *Battey* and the '483 Patent are directed to systems including an enclosure for connecting “an optical fiber feed or ‘drop’ cable from an optical fiber service provider to a distribution point[.]” ’483 Patent, 1:15-17, 1:19-21; *Battey*, [0003], [0008], [0025], [0027]. Specifically, both *Battey* and the '483 Patent are directed towards “a drop interface box (DIB) for interfacing between an optical network service provider’s heavy jacketed drop cable and optical distribution cables at a premises.” ’483 Patent, 2:3-6; *Battey*, [0005], [0008], [0025], [0027], [0030]. As such, *Battey* is in the same field of endeavor as the '483 Patent. *Dec.*, ¶¶58-60.

Additionally, *Battey*, like the '483 Patent, is directed to the problem of using a splice tray (“fiber storage panel”) with a hinged connection to a base unit. Thus, *Battey* is reasonably pertinent to a problem described by the '483 Patent. *Compare Battey*, [0033], [0038]-[0039], Fig. 3, with ’483 Patent, 4:49-53; *Dec.*, ¶¶58-60.

Therefore, *Battey* is analogous art to the '483 Patent.

C. Overview of Blankenship

U.S. Patent No. 6,721,484 to Blankenship et al. (“*Blankenship*”) was filed September 27, 2002, issued April 13, 2004, and therefore qualifies as prior art to the '483 Patent under at least 35 U.S.C. § 102(b) (pre-AIA). *Blankenship*’s U.S. Patent Application Publication US 2004/0062508 was cited but was not substantively discussed during prosecution of the '483 Patent. *See generally* '483 FH.

Both *Blankenship* and the '483 Patent are directed to systems including an enclosure for connecting “an optical fiber feed or ‘drop’ cable from an optical fiber service provider to a distribution point[.]” ’483 Patent, 1:15-17, 1:19-21; *Blankenship*, 1:7-11, 1:14-33, 3:10-15, 5:16-26, 6:28-40, 8:1-6, Fig. 6. Specifically, both *Blankenship* and the '483 Patent are directed towards “a drop interface box (DIB) for interfacing between an optical network service provider’s heavy jacketed drop cable and optical distribution cables at a premises.” ’483 Patent, 2:3-6; *Blankenship*, 1:7-11, 1:14-33, 3:10-15, 5:16-26, 6:28-40, 8:1-6, Fig. 6. As such, *Blankenship* is in the same field of endeavor as the '483 Patent. Dec., ¶¶61-63.

Additionally, *Blankenship*, like the '483 Patent, is directed to the problem of storing cables within an enclosure including using at least one spool for storing said cables and providing strain relief and a minimum bend radius to prevent damaging said cables. Thus, *Blankenship* is reasonably pertinent to a problem described by the '483 Patent. Compare *Blankenship*, 6:28-56, 7:5-8, 7:56-59, Fig. 6, with '483 Patent, 5:21-26, 5:34-43, Fig. 5-4; Dec., ¶¶61-63.

Therefore, *Blankenship* is analogous art to the '483 Patent.

D. Overview of Cowen

U.S. Patent No. 8,965,168 to *Cowen* et al. (“*Cowen*”) was filed November 23, 2010, issued February 24, 2015, and therefore qualifies as prior art to the '483 Patent

under at least 35 U.S.C. § 102(e) (pre-AIA). *Cowen* was neither cited nor considered during prosecution of the '483 Patent. *See generally* '483 FH.

Both *Cowen* and the '483 Patent are directed to systems including fiber optic housings for connecting and managing optical fiber. '483 Patent, 1:15-17, 1:19-21; *Cowen*, 3:50-4:18, 27:41-28:7. Specifically, both *Cowen* and the '483 Patent are directed to enclosures for connecting various optical cables. '483 Patent, 2:3-6; *Cowen*, 2:53-60, 25:7-21, 8:28-50, 17:30-33. As such, *Cowen* is in the same field of endeavor as the '483 Patent. *Dec.*, ¶¶64-65.

Additionally, *Cowen*, like the '483 Patent, is directed to the problem of fiber optic cable routing and management within an enclosure. Thus, *Cowen* is reasonably pertinent to a problem described by the '483 Patent. *Compare* *Cowen*, 3:50-4:18, 27:41-28:7, Figs. 26B, 26C, 28, *with* '483 Patent, 2:3-15, 3:6-16, 4:58-66, 5:21-29; *Dec.*, ¶¶64-65.

V. GROUND 1: CLAIMS 1 AND 11 ARE OBVIOUS OVER *HOLMBERG* IN VIEW OF *BATTEY*

The Challenged Claims recite a drop interface box that is configured to be mounted to a structure and that receives a drop cable. Under the *second construction* of “drop cable”—based on Patent Owner’s application of the claims in parallel litigation—*Holmberg* teaches precisely this concept. Specifically, *Holmberg* teaches “stripping away the outer jacket of the cable for a desired length” and the “stripped portion of the cable can then be spooled around the bend radius limiters 264 provided

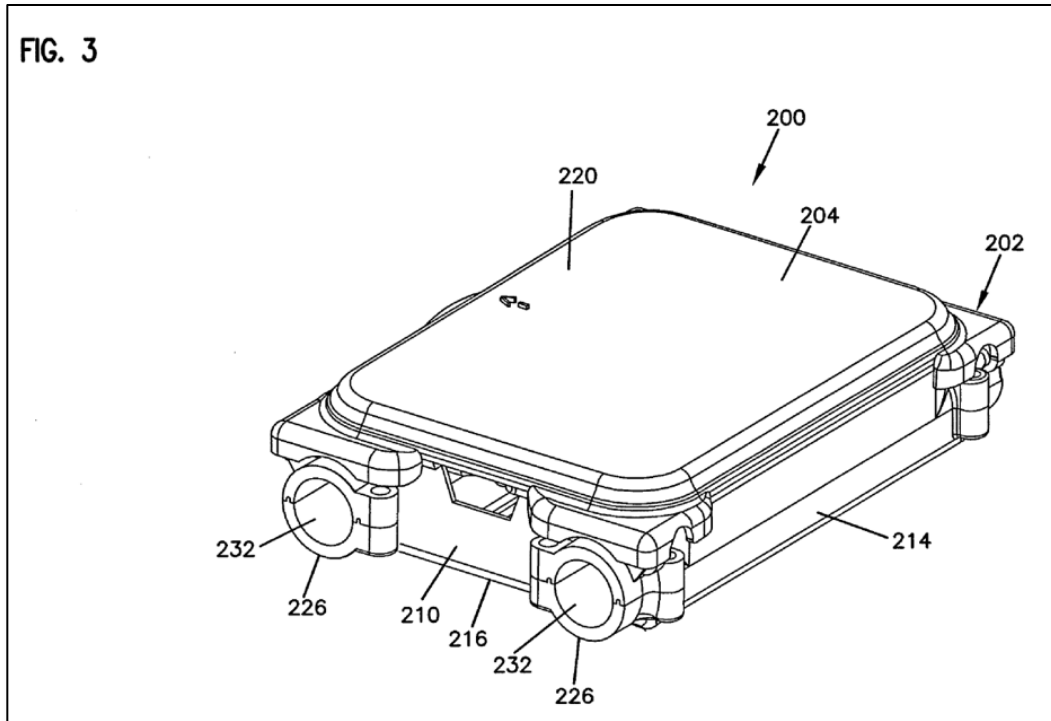
within the main body 216.” *Holmberg*, [0052]. As discussed in Sections II.B-C, the examiner asserted *Holmberg* against the pending claims during prosecution. Applicant never suggested that *Holmberg* failed to teach a drop cable. Instead, Applicant amended the claims to require a fiber storage panel with an opposing hinge and argued that *Holmberg* failed to teach this new limitation. *See* Section II.B. While this amended limitation resulted in the Challenged Claims allowance, this feature was in fact well known and commonplace in the art. *Battey* is one example of this arrangement and is combined with *Holmberg* in all five grounds herein. As described in detail below, a POSITA would have been motivated to modify *Holmberg* to implement a hinged connection for its splice tray pursuant to *Battey*.

A. Claim 1(Pre): A drop interface box configured to be mounted to a structure and to receive a drop cable from an optical fiber service provider distribution point and a plurality of distribution cables which distribute the optical fiber service, the drop interface box comprising:

The ’483 Patent describes a drop interface box as “interfacing between an optical network service provider’s heavy jacketed drop cable and optical distribution cables[.]” ’483 *Patent*, 2:3-6. To the extent the preamble is limiting, *Holmberg* teaches wall box 200 (“drop interface box”) that is configured to be mounted to a wall or pole. *Holmberg* teaches wall box 200 receives a jacketed cable, where at least a portion of said jacket is stripped inside said wall box 200, and terminated optical fibers of said stripped cable are spliced to corresponding fibers of a distribution

cable. *Holmberg*, [0034], [0037], [0048], [0052]-[0053] (using the term “terminated” to refer to cut and spliced fibers). Thus, a POSITA would have understood *Holmberg*’s wall box 200 interfaces between a jacketed cable (internally stripped of its jacket) and a plurality of distribution cables. *Dec.*, ¶¶67-70.

Further, *Holmberg* teaches wall box 200 is configured “to be easily mounted to a vertical surface such as a pole or wall” (“configured to be mounted to a structure”). *Holmberg*, [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.”). *Holmberg*, [0051] (“It is preferred for the wall box 200 to be configured to allow the wall box to be easily mounted to a vertical surface such as a pole or wall.”). *Holmberg* teaches its wall box may be used for either indoor or outdoor applications. *Holmberg*, [0034] (“indoor applications such as multi-dwelling units, or commercial buildings where a plurality of subscribers is located.”), [0034] (“[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.”), [0035] (describing wall box 200). Specifically, *Holmberg* teaches mounting wall box 200 to a “vertical surface such as a pole or wall” (“structure”) via mounting flanges or brackets. *Holmberg*, [0051]; *Dec.*, ¶74. *Holmberg*’s wall box 200 is depicted below:



Holmberg, Fig. 3.

Holmberg also teaches wall box 200 receives a jacketed cable and said jacketed cable is clamped inside the wall box at clamping portion 310. *Holmberg*, [0052] (“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.”). In particular, *Holmberg* teaches cable exit/enter openings 232 for “allowing the portions of the telecommunications cable located upstream and downstream of the mid-span access location to enter and exit the enclosure 202.” *Holmberg*, [0037], [0046]-[0048], [0052]-[0054], Figs. 3-10. *Holmberg* also teaches “jacketed portions

of the cable are preferably inserted between the half cylinders 312, 314 of two of the coaxially aligned clamping portions 310.” *Holmberg*, [0048]. A POSITA would have understood said half cylinders help form the cable exit/enter openings 232. *Dec.*, ¶67. *Holmberg* further teaches said half cylinders 312, 314 “provide mechanical retention of the cable and also provide a seal around the perimeter of the cable jacket.” *Holmberg*, [0048]. Therefore, a POSITA would have understood *Holmberg* teaches wall box 200 is configured to receive a jacketed cable and that at least a portion of the jacket is stripped from said cable proximate to the cable entrance of wall box 200. *Holmberg*, [0048], [0052]-[0053]; *Dec.*, ¶68.

A POSITA would have found obvious that *Holmberg*’s jacketed cable (“drop cable”) is “from an optical fiber service provider distribution point,” as claimed. *Dec.*, ¶¶67-70, 72-73. *Holmberg* teaches wall box 200 is “for use in a fiber optic network.” *Holmberg*, [0008]. *Holmberg* teaches a prior art fiber optic network. *See Holmberg*, [0003]-[0007], Figs. 1-2. A POSITA would have understood *Holmberg*’s wall box, which is for use in a fiber optic network, would have functioned as part of such a fiber optic network to provide service to a premises. *Dec.*, ¶72 (explaining that boxes of the type described by *Holmberg* were commonly used to interface an optical fiber service provider distribution point, and discussing examples of this arrangement in the art). In such a fiber optic network, wall box 200 would thus have received its jacketed cable from an optical fiber service provider distribution point.

Dec., ¶72. Indeed, *Holmberg* teaches the wall box is “configured to be easily mounted at mid-span locations along the length of a fiber optic telecommunications cable.” *Holmberg*, [0034]. Further, *Holmberg* teaches providing fiber optic service to a “plurality of subscribers.” *Holmberg*, [0003]-[0007], [0034]. Thus, a POSITA would have found obvious that *Holmberg*’s jacketed cable would have originated from an optical fiber service provider distribution point and would have been coupled (by removing at least a portion of the jacket and via terminated fibers) to a plurality of distribution cables (discussed in detail below) to distribute optical fiber service to said plurality of subscribers. *Holmberg*, [0052]-[0053]; *Dec.*, ¶¶67-70, 72-73.

Holmberg teaches a jacketed drop cable is prepared by stripping the outer jacket and then terminating selected fibers. *Holmberg*, [0052]-[0053]. As discussed in detail below for Claim 1(d), such terminated fibers meet the claimed “feed break-out cables.” *See* Claim 1(d). *Holmberg* teaches the “terminated optical fiber can be spliced to a corresponding fiber of another cable (e.g., a distribution cable)[.]” *Holmberg*, [0053]. *Id.* (“When it is desired to splice one of the terminated fibers to a distribution cable, the terminated fiber can be accessed from the spool structure 298[.]”). Thus, *Holmberg* also teaches at least one distribution cable.

Specifically, *Holmberg* teaches the claimed “a plurality of distribution cables which distribute the optical fiber service[.]” For example, *Holmberg* teaches

distribution cables have “on the order of 12 to 48 fibers; however, alternative implementations may include fewer or more fibers.” *Holmberg*, [0005]. *Holmberg* teaches such 12 to 48 fibers may be split into “for example, 216 to 432 individual distribution fibers that may be associated with a like number of end user locations.” *Id.* A POSITA would have found obvious that *Holmberg*’s distribution cables (taught at [0053]) would likewise have been individual distribution fibers associated with a like number of end user locations. *Dec.*, ¶¶69-70. Indeed, *Holmberg* teaches providing fiber optic service to a “plurality of subscribers.” *Holmberg*, [0003]-[0007], [0034]. Thus, a POSITA would have found obvious that *Holmberg*’s plurality of distribution cable fibers meets a plurality of “distribution cables,” as claimed. *Dec.*, ¶¶69-70.

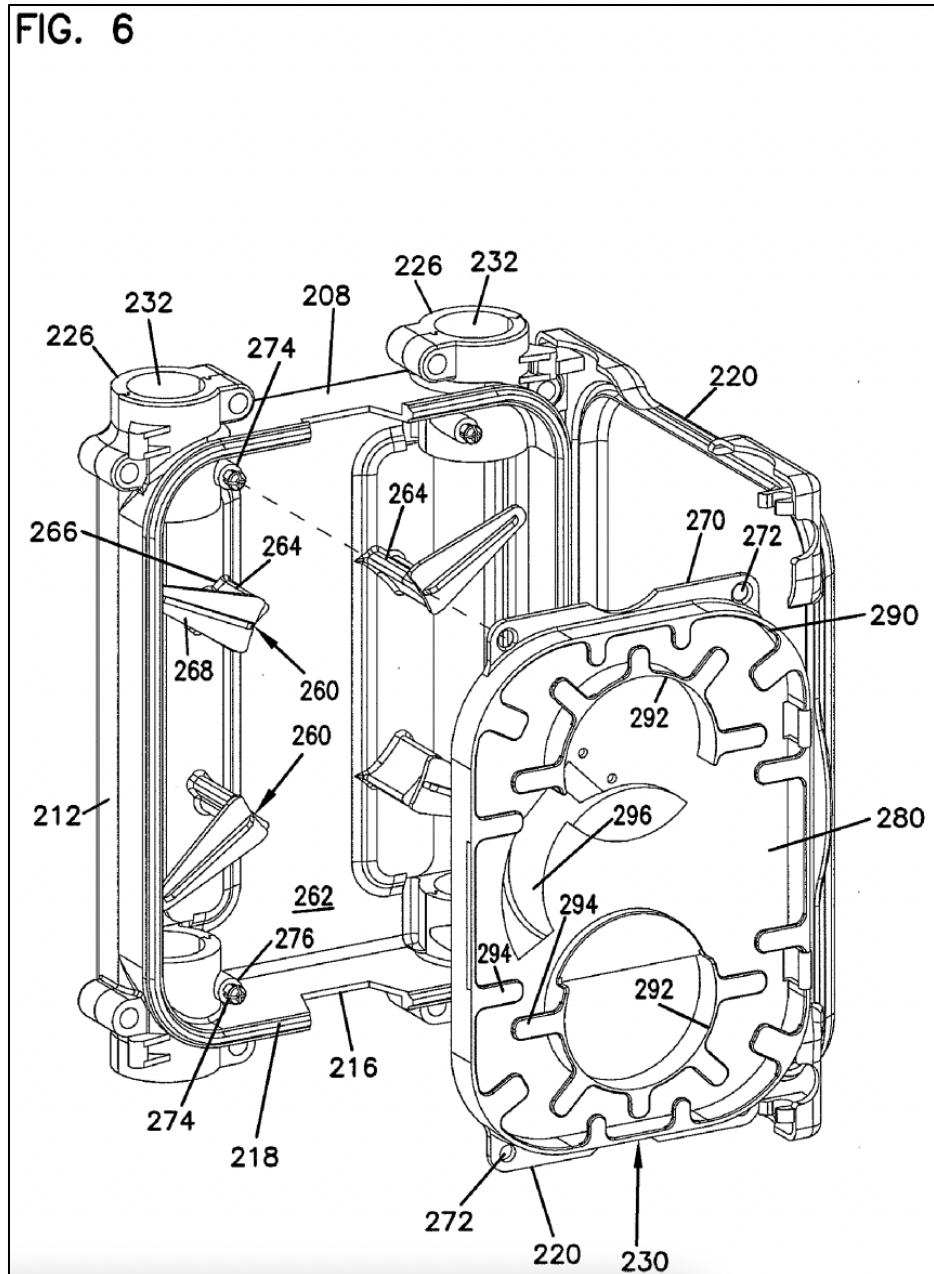
To the extent Patent Owner argues *Holmberg* does not expressly discuss converting/splicing its distribution cables into terminating fibers that reach end customers, a POSITA would have found it obvious to splice or otherwise connect fibers of distribution cable(s) to terminating fibers. *Dec.*, ¶¶70-73. Indeed, *Holmberg* teaches “facilitating coupling the fibers of the branch cable [drop cable] to a plurality of different subscriber locations.” *Holmberg*, [0006]-[0007]. *Holmberg* further teaches extending fiber optic networks to “multi-dwelling units such as apartment buildings and condominiums” where “branch cables/fibers are optically coupled to the fibers of the cable 150 at optical coupling locations” and where a plurality of

wall boxes each has “optical coupling locations corresponding to a plurality of different subscribers (e.g., each resident on a given floor).” *Holmberg*, [0005]-[0007]. Therefore, a POSITA would have understood *Holmberg* teaches a plurality of distribution cables which distribute the optical fiber service, as claimed. *Dec.*, ¶¶70-73.

B. Claim 1(a): a base unit having a drop cable entrance configured to receive the drop cable and having drop cable retaining mechanisms spaced apart and configured to retain a length of drop cable looped around the drop cable retaining mechanisms;

Holmberg renders obvious Claim 1(a) under the *second construction* of “drop cable”—based on Patent Owner’s application of the claims in parallel litigation.

Holmberg teaches wall box 200 has main body 216 (“base unit”). *Holmberg*, [0035], [0037]-[0038], [0040]-[0041], [0045]-[0047], [0049]-[0050], [0052]-[0053]. Fig. 6 below depicts main body 216:

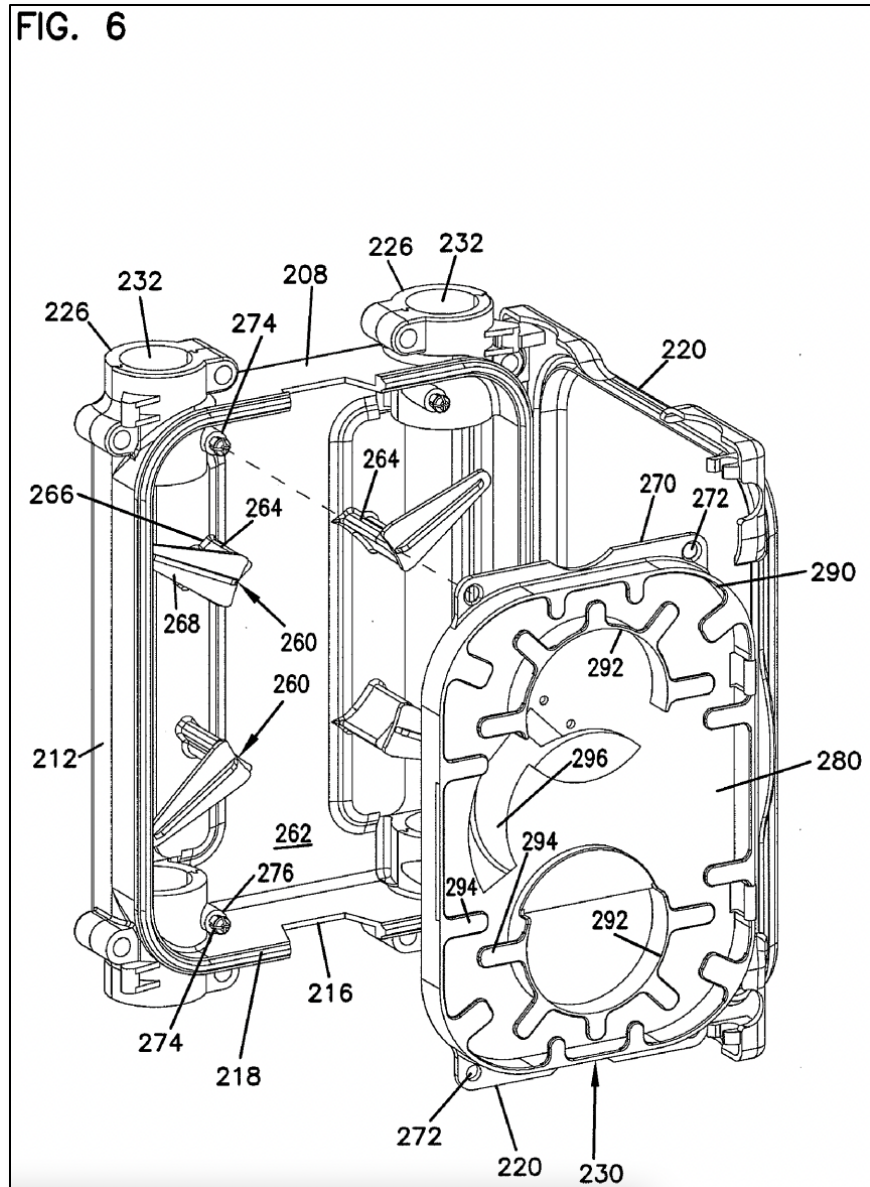


Holmberg, Fig. 6; see also *Holmberg*, Figs. 3-4.

As discussed above, *Holmberg* teaches a drop cable entrance, namely cable exit/enter openings 232 (formed from half cylinders 312, 314) that include clamping portions 310. See Claim 1(Pre). In particular, *Holmberg* teaches base unit 216 includes cable exit/enter openings 232 for “allowing the portions of the

telecommunications cable located upstream and downstream of the mid-span access location to enter and exit the enclosure 202.” *Holmberg*, [0037], [0046]-[0048], [0052]-[0054], Figs. 3-10; *Dec*, ¶¶67, 77. Therefore, a POSITA would have understood *Holmberg* teaches wall box 200 has main body 216 that receives a drop cable via a drop cable entrance. *Dec*, ¶¶67, 76-77. Additionally, as discussed above, *Holmberg* teaches stripping at least a portion of the jacketed cable inside main body 216 of wall box 200. *See* Claim 1(Pre); *Holmberg*, [0052]-[0053].

Holmberg further teaches main body 216 includes cable management members 260 spaced apart and that are configured to retain a loop of stripped cable (“drop cable”) wrapped around said cable management members 260 (“drop cable retaining mechanisms”). Specifically, *Holmberg* teaches cable management members 260 include bend radius limiters 264 and cable retention members 268 within main body 216. *Holmberg*, [0041], [0045], [0052]; *Dec.*, ¶78. Further, *Holmberg* teaches cable management members 260 retain a length of stripped cable (“drop cable”) via bend radius limiters 264. *Holmberg*, [0041], [0045], [0052] (“The stripped portion of the cable can then be spooled around the bend radius limiters 264 provided within the main body 216.”); *Dec.*, ¶78. Fig. 6 below depicts a plurality of cable management members 260 including bend radius limiters 264:

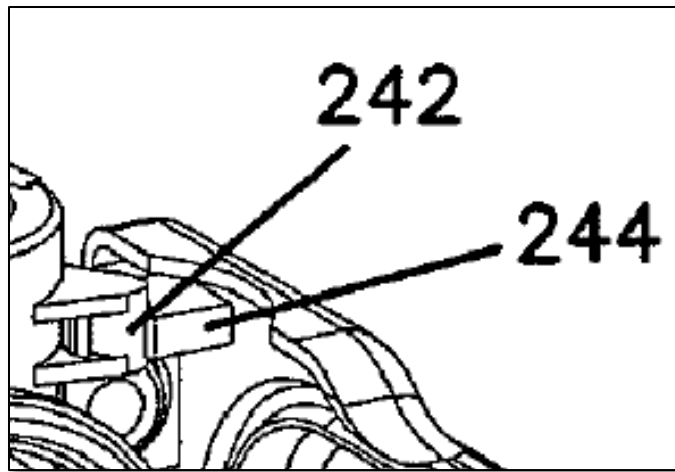


Holmberg, Fig. 6; *see also Holmberg*, Fig. 10.

- C. Claim 1(b): a cover having a hinged connection to the base unit to selectively enclose a storage area provided in the base unit; and**

As discussed above, *Holmberg* teaches wall box 200 includes main body 216 (“base unit”). *Holmberg* also teaches front cover 220 (“cover”) that is “pivotally mounted to the main body 216.” *Holmberg*, [0035]. Specifically, *Holmberg* teaches

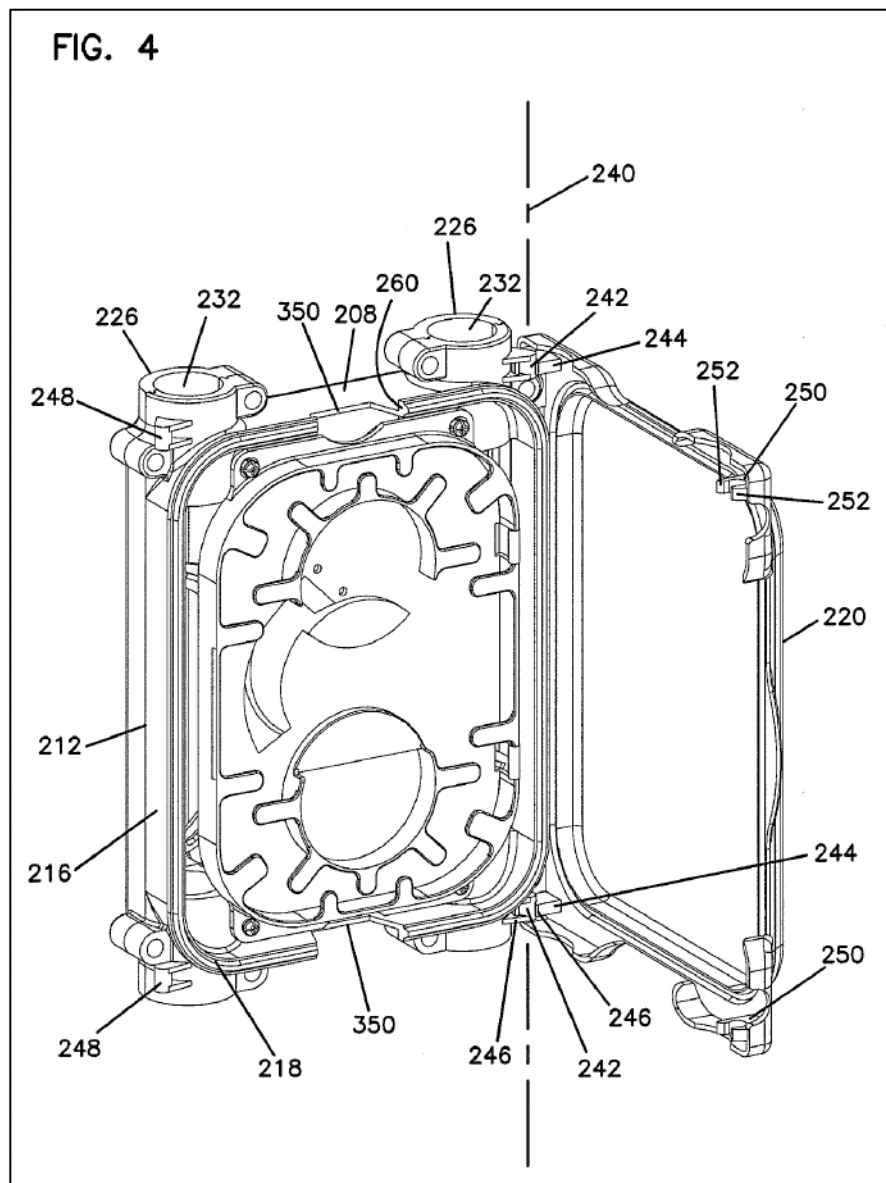
front cover 220 has a hinged connection to main body 216 (“base unit”) using a pair of hinge pins 242 and hinge pin receivers 244. In detail, *Holmberg* teaches the “pivotal connection between the front cover 220 and the main body 216 is provided by a hinge arrangement including a pair of hinge pins 242 integrally formed with the main body 216 and a pair of hinge pin receivers 244 integrally formed with a back side of the front cover 220.” *Holmberg*, [0038], [0039]. Said hinge pins 242 and hinge pin receivers 244 are depicted below:



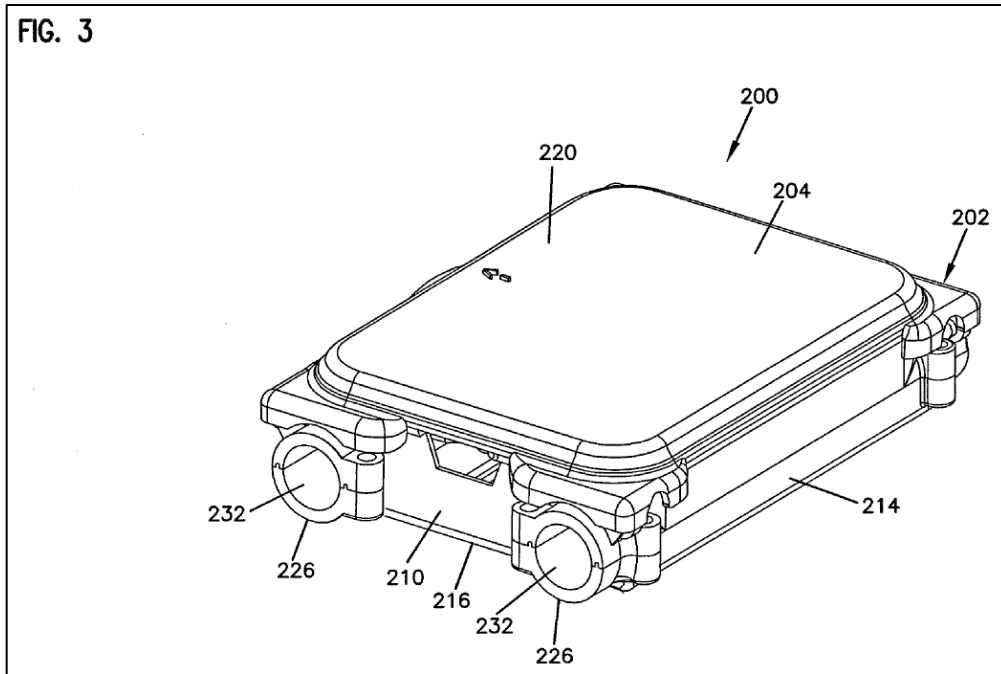
Holmberg, Fig. 4 (excerpt).

Holmberg also teaches front cover 220 selectively encloses the interior of enclosure 202 (“storage area”) provided in main body 216 (“base unit”). *Holmberg*, [0035] (“The front cover 220 is movable between a first position (shown in FIG. 3) where the open front side 218 of the main body 216 is covered, and a second position (shown in FIG. 4) where the open front side 218 of the main body 216 is exposed so as to allow access into the interior of the enclosure 202 from the front side 204 of

the enclosure 202.”). Fig. 4 below depicts main body 216 and cover 220 in an open configuration:



Holmberg, Fig. 4. Additionally, Fig. 3 below depicts cover 220 and main body 216 in a closed configuration:



Holmberg, Fig. 3. Thus, a POSITA would have understood that the interior of enclosure 202 would have provided a storage area in main body 216. *Dec.*, ¶¶79-81.

- D. Claim 1(c): 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 such that the fiber storage panel is moveable relative to the base unit and configured to be stored between the base unit and the cover,**

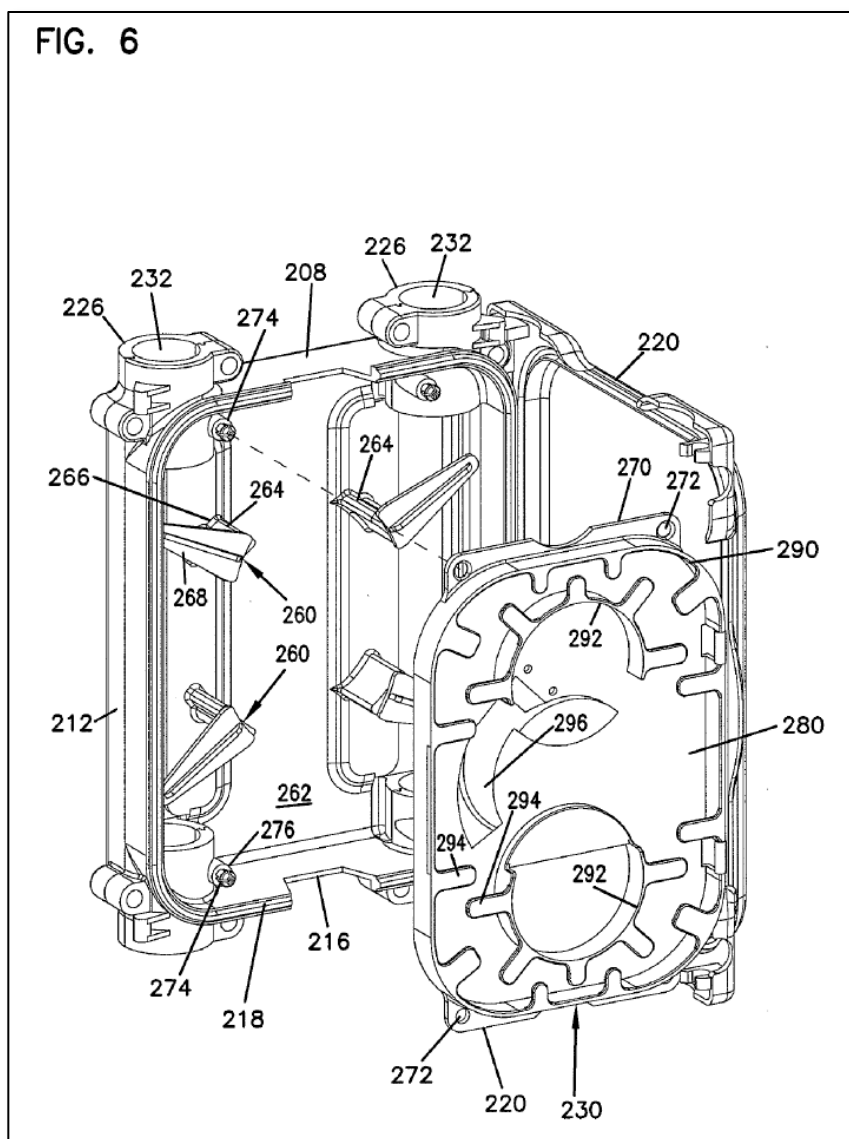
Holmberg in view of *Batney* renders obvious Claim 1(c).

1. *Holmberg's Teachings*

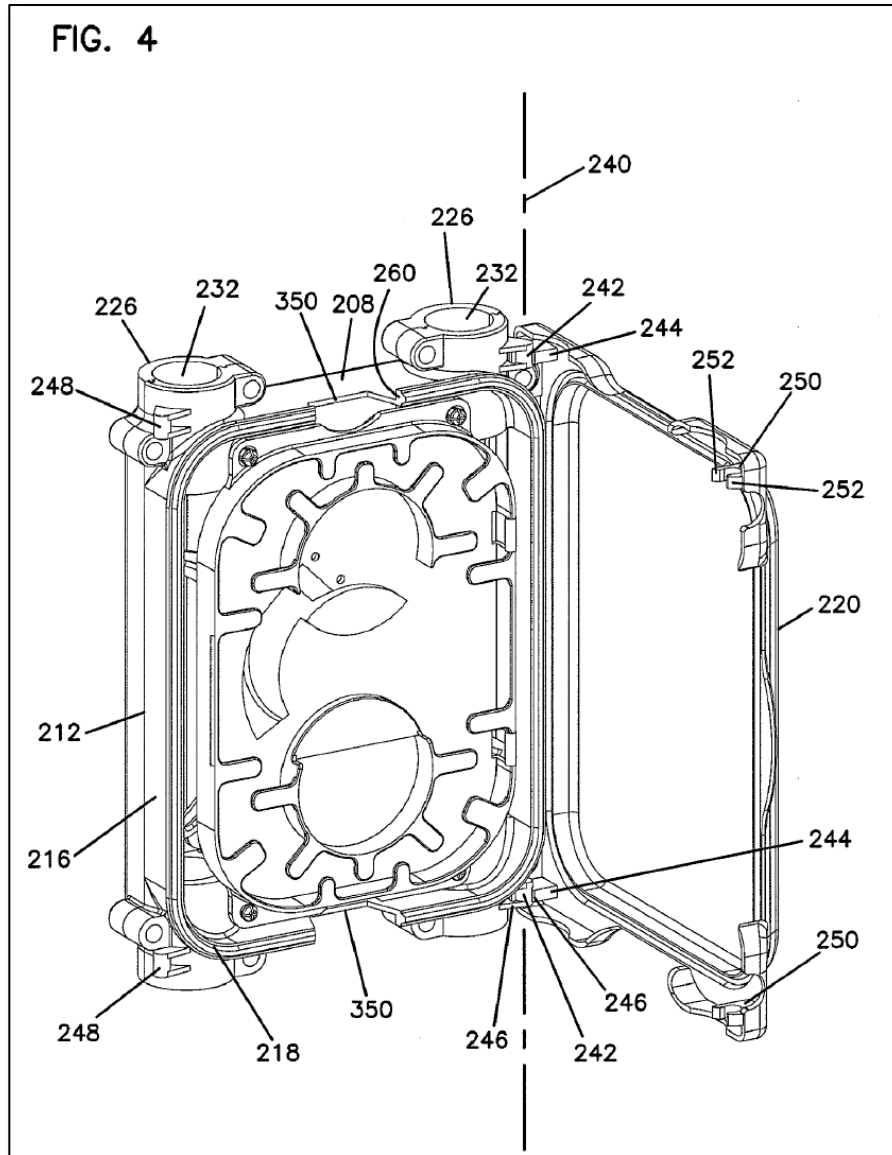
Holmberg teaches wall box 200 includes splice tray 230 (“fiber storage panel”). *Holmberg* teaches splice tray 230 “provides cable/fiber management within the interior of the enclosure 202.” *Holmberg*, [0041]-[0045], [0053], [0035]; *Dec.*, ¶¶82-84. Indeed, *Holmberg* teaches splice tray 230 includes spools (e.g., fiber storage walls 292 “partial spools” and spool structure 298) to store excess fiber.

Holmberg, [0041]-[0045], [0052]-[0053]; *Dec.*, ¶¶82-84. Thus, a POSITA would have understood splice tray 230 is a “fiber storage panel,” as claimed. *Dec.*, ¶¶82-84. Additional details regarding *Holmberg’s* splice tray 230 having spools to store cables are discussed for Claim 1(d) below. *See* Claim 1(d).

Holmberg further teaches splice tray 230 is configured to be fastened to main body 216 and thus stored between main body 216 (“base unit”) and cover 220 (“cover”), as depicted in Fig. 6 below:



Holmberg, Fig. 6. Further, Fig. 4 below depicts splice tray 230 attached to main body 216 such that cover 220 may be selectively closed:



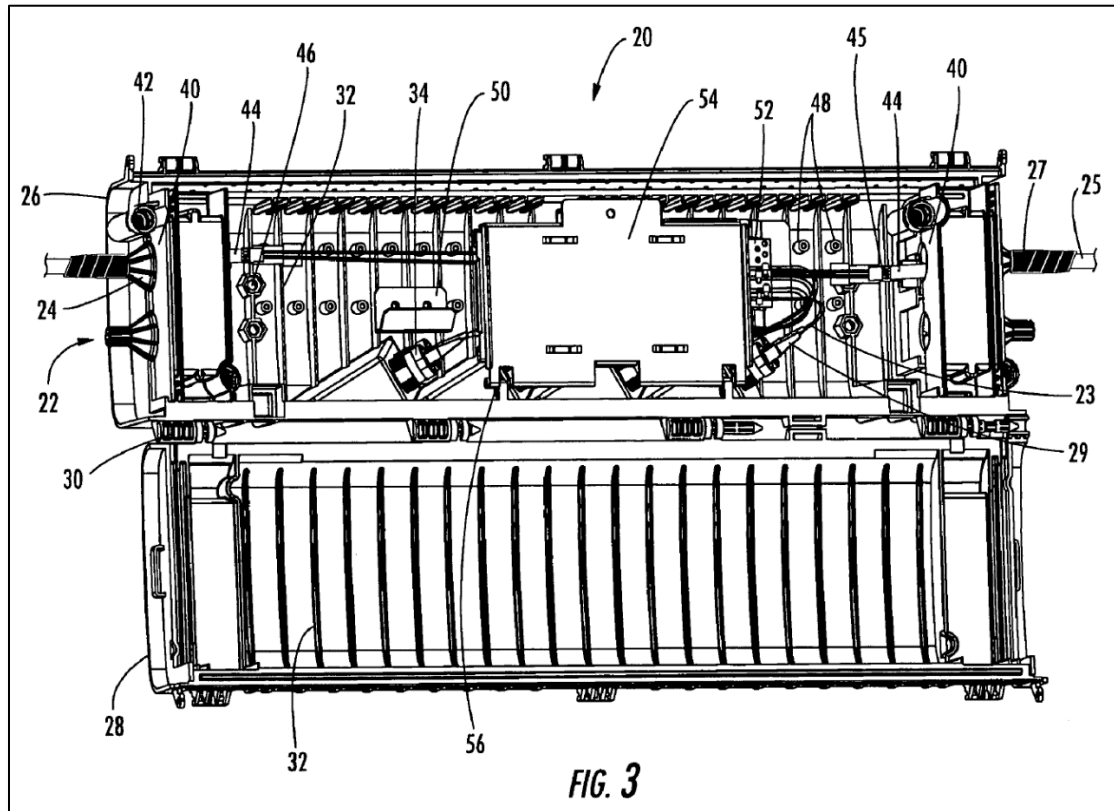
Holmberg, Fig. 4. In particular, *Holmberg* teaches splice tray 230 “mounts in the interior of the enclosure 202[.]” *Holmberg*, [0035]. However, *Holmberg* does not expressly teach splice tray 230 having a hinged connection to main body 216. As discussed below, *Batley* teaches such a hinged connection for a splice tray.

2. *Battey's Teachings*

Battey teaches an optical connection closure that receives optical fibers and drop cables to “establish desired optical connections in a fiber optic communications network[.]” *Battey*, [0008], [0025], [0027]. *Battey* teaches connection closure 20 includes base 26 and cover 28, where “cover 28 is hingedly affixed to the base 26 and adapted to be opened and closed thereon.” *Battey*, [0033]. *Battey* further teaches work shelf 54 to which a splice tray is mounted. *Battey*, [0038]. Further, *Battey* teaches shelf 54 is “hingedly affixed to an interior wall of the base 26 of the connection closure 20 at one or more hinge locations 56, thus allowing the shelf 54 to be rotated between an opened position for providing access to the splice tray and a closed position for storing the splice tray.” *Battey*, [0039].

Specifically, *Battey* teaches hinge locations “on the same side of the closure 20 as the hinge locations 30 that hingedly affix the cover 26 to the base 28.” *Battey*, [0039]. However, *Battey* alternatively teaches “the hinge locations 56 may be located on the side of the closure 20 opposite the hinge locations 30.” *Id.* A POSITA would have understood from *Battey's* teachings that in at least one embodiment, shelf 54 would have “a hinged connection to the base unit on a side opposite the hinged connection of the cover to the base unit[.]” as claimed. *Dec.*, ¶¶85-89. *Battey's* Fig. 3 below depicts connection closure 20 including shelf 54 with hinged connection 56 on the same side as cover 28. Fig. 3. However, as previously noted,

Battey expressly teaches locating hinge locations 56 on the side opposite hinge locations 30. *Battey*, [0039].



Battey, Fig. 3.

3. Motivation to Combine *Holmberg* and *Battey*

A POSITA would have found it obvious to modify *Holmberg* pursuant to *Battey*, resulting in splice tray 230 moveable relative to main body 216 and configured to be stored between the main body 216 and cover 220. *Dec.*, ¶¶90-92. As discussed below, 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. *Dec.*, ¶¶90-92. Specifically, *Battey* teaches such hinged connection is advantageous because “shelf 54 is rotatable relative to the base 26 through an angle of at least about 90 degrees and as much as about 180 degrees between the opened position and the closed position, thus providing full and convenient access to the splice tray.” *Battey*, [0039]; *Dec.*, ¶¶90-92. Such a modification would have been use of a known technique of using a hinged connection for a splice tray instead of a fastener to advantageously improve *Holmberg’s* splice tray 230 and wall box 200 in the same way as *Battey’s* splice tray shelf 54 and connection closure 20.⁵ *Dec.*, ¶¶90-92. Further, a POSITA would have found it obvious to use a hinged connection for a splice tray because such was well known in the prior art. *Dec.*, ¶¶38-39, 90-93 (discussing prior art references teaching

⁵ In a recent Federal Circuit decision, the Court clarified that a sufficient showing of motivation to combine is met when petitioner demonstrates that (1) there was a known problem in the art, (2) the secondary reference solves such problem, and (3) combining the teachings of the references isn’t beyond the skill of an ordinary artisan. *Intel Corp. v. PACT XPP Schweiz AG*, No. 22-1037, 13 (Fed. Cir. Mar. 13, 2023). The Court further noted that “[n]othing more is required to show a motivation to combine under KSR[.]” *Id.*

hinged connections for splice trays, and concluding that such an arrangement was well understood in the art).

A POSITA would further have understood that *Holmberg* does not teach away from using a hinged splice tray, despite applicant's vague allegation to the contrary during prosecution of the '483 Patent. *Dec.*, ¶91. *See* Section II.B; '483 *FH*. As discussed in Section II.B, facing a *Holmberg* rejection during prosecution, applicant amended the claims to require the instant opposing hinge structure and argued that *Holmberg* "clearly teach[es] away" from such an arrangement. '483 *File History*, 254. Specifically, applicant noted that *Holmberg* fastened its splice tray to the main body using threaded fasteners (e.g., bolts), rather than a hinged arrangement. *Id.* Applicant further contended that "one of skill in the art would not use fasteners in this manner if a hinged connection were utilized." *Id.*

Holmberg's disclosure of one type of connection does not equate to a teaching away from all other connections. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Urbanski*, 809 F.3d 1237, 1244 (Fed. Cir. 2016) (quoting *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994)) (affirming obviousness where reference "d[id] not criticize or discredit" claimed method). *Holmberg* does not criticize, discredit, or otherwise discourage using a hinged

connection or other types of connections rather than threaded fasteners. *Dec.*, ¶91. Indeed, *Holmberg* merely describes using threaded fasteners but otherwise does not express an opinion discouraging or discrediting use of other types of connections, such as a hinged connection. *Dec.*, ¶91. Further, *Holmberg* depicts removable fasteners (i.e., Philips head screws) such that *Holmberg* did not express a preference for a permanently immovable splice tray. A POSITA would have understood *Holmberg* does not teach splice tray 230 is permanently attached because Fig. 6 depicts splice tray 230 not fastened to main body 216. *Dec.*, ¶91; '483 FH, 40.

A POSITA would have recognized that using a hinged connection would have provided advantages including easier access and was a known solution to attaching a splice tray in a wall box. *Dec.*, ¶¶90-92. Such a modification would have been a simple substitution of a hinged connection instead of a fastener and would have obtained the predictable result of a rotatable splice tray with a hinged connection to the base unit on a side opposite the hinged connection of the cover to the base unit, such as taught by *Batley*.⁶ *Dec.*, ¶¶90-92. Such a modification thus would have resulted in *Holmberg*'s splice tray 230 moveable relative to main body 216 and configured to be stored between main body 216 and cover 220. *Dec.*, ¶¶90-92. Further, a POSITA would have recognized the advantages of easier access to the

⁶ See footnote 5 above.

rear side of the splice tray and components located behind the splice tray in main body 216, such as the drop cable. *Dec.*, ¶¶90-92.

A POSITA would have had a reasonable expectation of success when modifying *Holmberg* per *Batley's* teachings. Indeed, hinged connections for splice trays were well known in the prior art. *Dec.*, ¶¶38-39, 90-93. Modifying *Holmberg* to utilize a hinged connection instead of threaded fasteners would have been a straightforward modification and would not have required undue experimentation. *Dec.*, ¶¶90-93. Further, *Holmberg* already teaches utilizing a hinged connection for main body 216 and front cover 220, such that modifying another side of main body 216 and splice tray 230 to have hinged connections as well would have had a reasonable expectation of success. *Dec.*, ¶¶90-93.

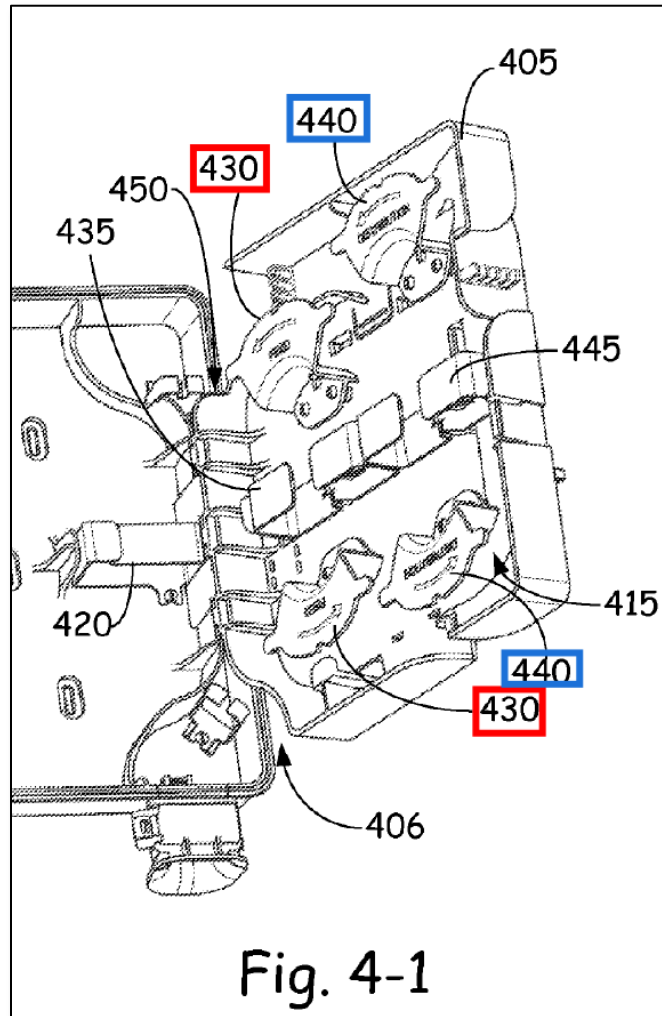
E. Claim 1(d): the fiber storage panel having first spools positioned to store a plurality of feed break-out cables coupleable to the drop cable, the fiber storage panel further having second spools positioned to store a plurality of distribution cables coupleable to the plurality of feed break-out cables.

As discussed above, *Holmberg-Batley* teaches the claimed “fiber storage panel.” *See* Claim 1(c). Also as discussed above, *Holmberg* teaches terminated fibers (“feed break-out cables”) and distribution cables. *See* Claim 1(Pre).

1. The '483 Patent's Spools

The '483 Patent describes “two sets of spools 430 and 440[.]” *'483 Patent*, 4:62-66, 5:30-43 (“pairs of cable storage spools 430 and 440[.]” “spools 430[.]”

“spools 440”). Fig. 4-1 below depicts first “spools 430” that “store feed cables” and second “spools 440” that “store distribution cables[.]” *Id.*



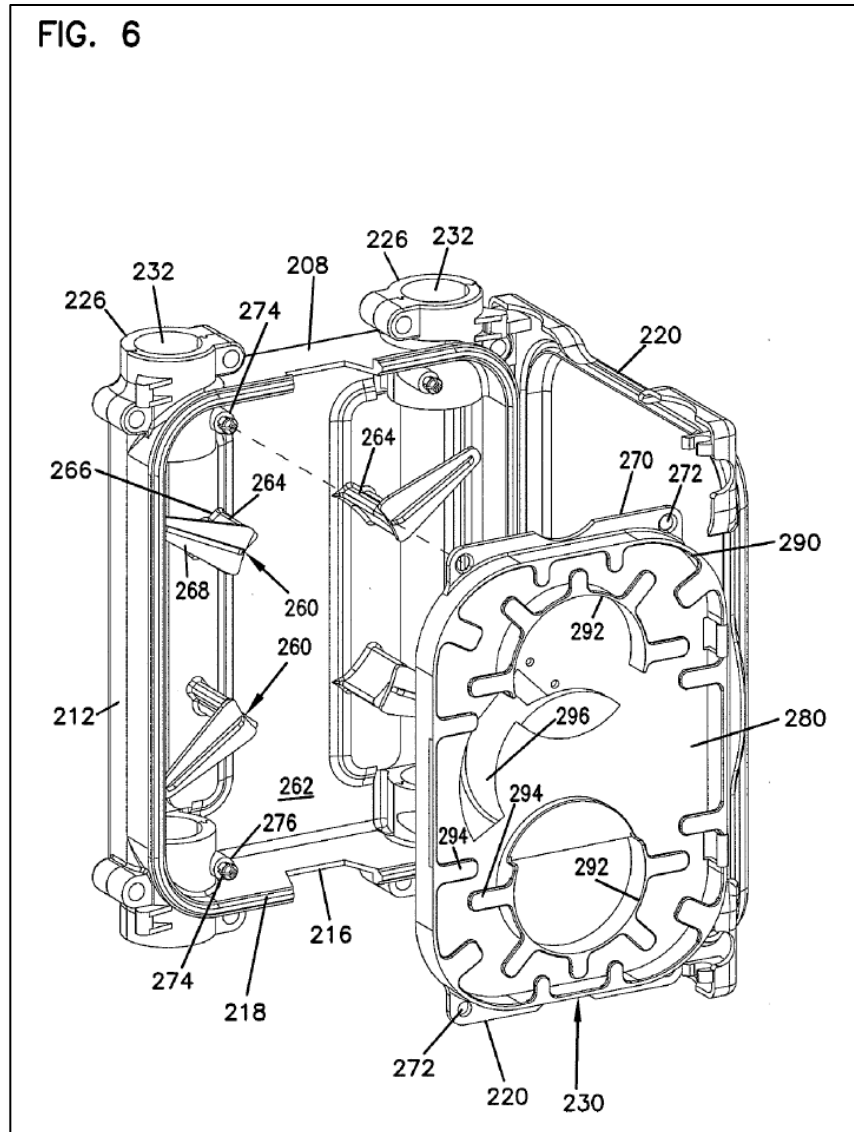
'483 Patent, Fig. 4-1 (excerpt, annotated).

Accordingly, the '483 Patent uses the plural “spools” to refer to a single set of curved structures that, jointly, provides at least the functionality that a single spool would provide. Put another way, a cable can be wrapped fully around two separated curved structures in the same way a cable can be wrapped fully around a solid circular spool. Although two curved structures only provide the wrapping

functionality of a single solid spool, the patent routinely uses the plural “spools” for that single set of curved structures (e.g., half circles). Consistent with this terminology, the claimed “first spools” is satisfied by a set of curved structures (e.g., half circles) that, jointly, allow cabling to be wrapped around them, e.g., similar to “spools 430” in Fig. 4-1 above. Likewise, the claimed “second spools” is also satisfied by a set of curved structures (e.g., half circles) that, jointly, allow cabling to be wrapped around them, e.g., similar to “spools 440” in Fig. 4-1 above.

2. *Holmberg’s Teachings – Spools*

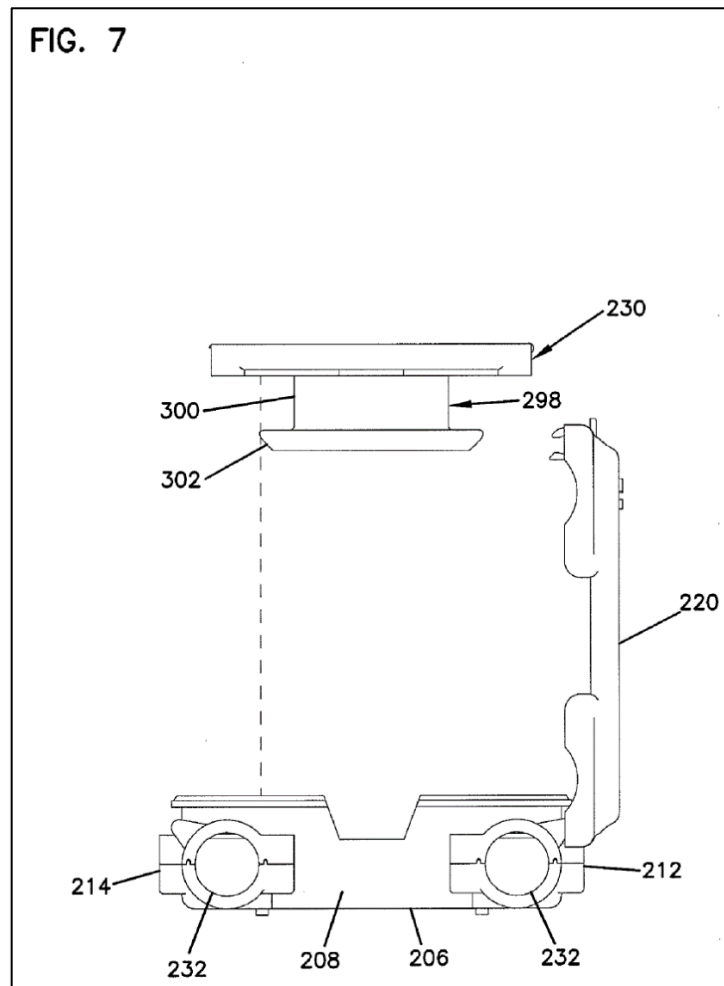
Holmberg teaches several different spool structures. For example, *Holmberg* teaches the precise two curved structure (e.g., half circles) “spools” arrangement 292 that is disclosed in the ’483 Patent. *Holmberg*, [0043] (“Two curved fiber storage walls 292 (e.g., partial spools) also project forwardly from the main panel 288. The fiber storage walls 292 have an outer curvature selected to provide bend radius protection to fibers routed about the exterior of the fiber storage walls 292. 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.”), *id.* (“Fiber retention fingers 294 project inwardly from the perimeter wall 290 and outwardly from the fiber storage walls 292 and function to assist in retaining fibers within the area defined between the wall 290 and the walls 292.”). This “spools” 292 embodiment is depicted in Fig. 6 below:



Holmberg, Fig. 6. Also depicted in Fig. 6, *Holmberg* teaches a “spools” arrangement that uses four separate physical structures—each labeled 260—that collectively provide the cable wrapping functionality of a single circular spool.

Finally, *Holmberg* teaches a solid circular spool. Specifically, *Holmberg* teaches “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.” *Holmberg*, [0045]. Additionally, *Holmberg* teaches “annular flange 302 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.” *Id.* Fig. 7 below depicts spool structure 298 including spool 300 and annular flange 302:



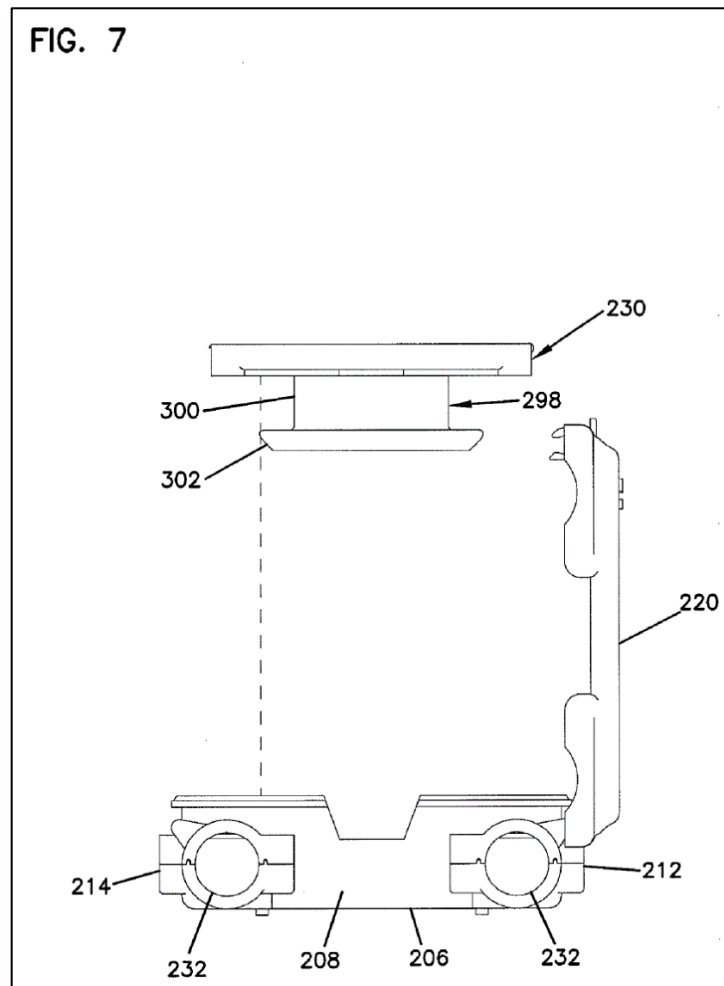
Holmberg, Fig. 7.

3. *Holmberg's Terminated Fibers and First Spools*

Holmberg teaches the drop cable is stripped of its external jacket, the internal optical fiber components are routed in the box, and those fiber components are then separated out into terminated fibers (the claimed “feed break-out cables”). *Holmberg*, [0053] (“To access fibers within the wall box 200, 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.”); *Dec.*, ¶199. *Holmberg* teaches storing excess terminated fiber using spool structure 298. *Holmberg*, [0053] (“The length of terminated fiber can be spooled around the spool structure 298 of the splice tray 230 for storage purposes.”). Further, *Holmberg* teaches each “terminated optical fiber can be spliced to a corresponding fiber of another cable (e.g., a distribution cable)[.]” *Holmberg*, [0053]. *Holmberg* teaches splicing each terminated fiber to a distribution cable by accessing terminated fiber from spool structure 298. *Holmberg*, [0053] (“When it is desired to splice one of the terminated fibers to a distribution cable, the terminated fiber can be accessed from the spool structure 298[.]”). Spool structure 298 “projects rearwardly from the back side of the main panel 288” of splice tray 230 and “includes a cylindrical spool 300 about which excess fiber can be wrapped.” *Holmberg*, [0045].

Specifically, *Holmberg* teaches “spool structure 298 also includes an annular flange 302 located at the rear end of the spool structure 298. The annular flange 302

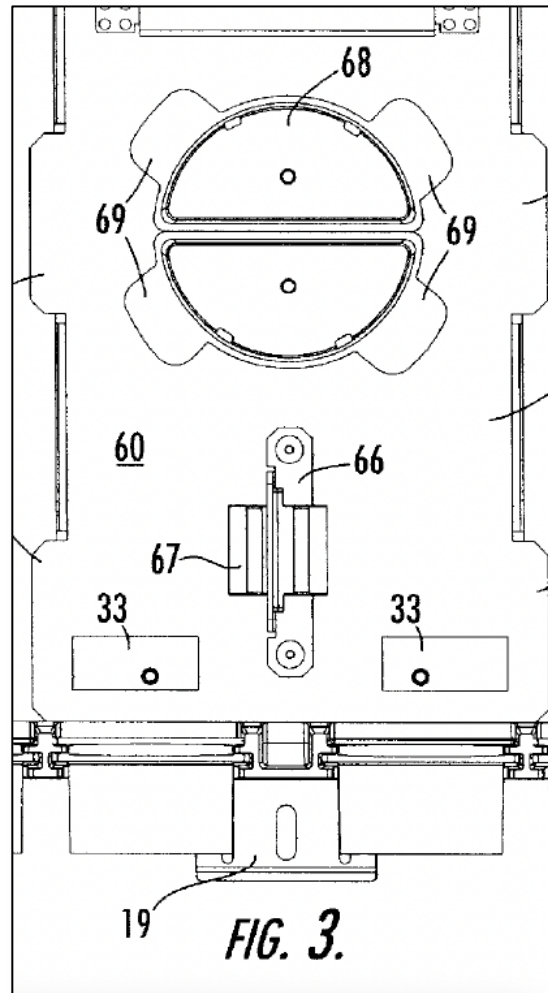
assists in retaining fibers spooled about the spool 300 from sliding off the end of the spool.” *Holmberg*, [0045]. Additionally, *Holmberg* teaches “annular flange 302 is sized to nest inside the bend radius limiters 264 of the main body 216 of the enclosure 202 when the splice tray 230 is mounted within the enclosure 202.” *Id.* Fig. 7 below depicts spool structure 298 including spool 300 and annular flange 302:



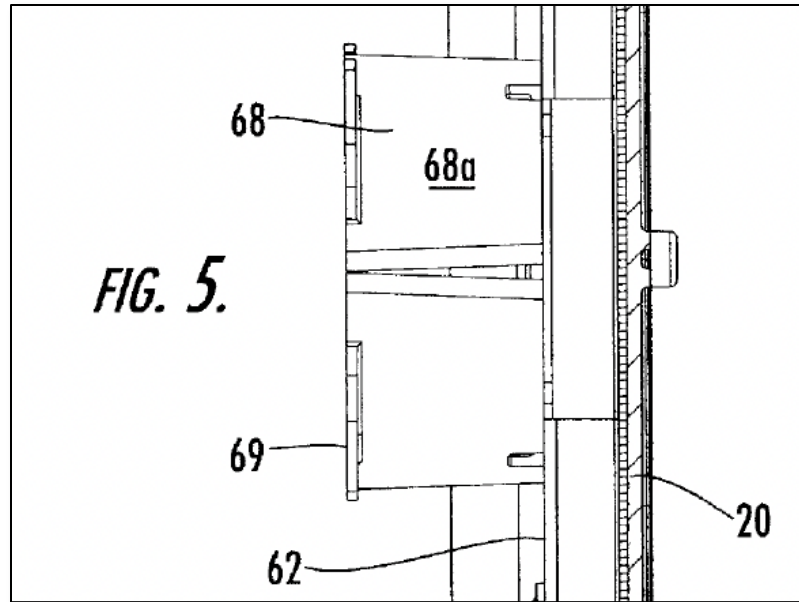
Holmberg, Fig. 7.

While *Holmberg* depicts spool structure 298 (including spool 300) as a single cylinder, a POSITA would have found it obvious that manufacturing a single

cylinder using two or more partial cylinder (e.g., semi-circular) pieces was well known in the art and was simply a manufacturing design choice. *Dec.*, ¶100. Indeed, *Blankenship* teaches a cylinder (routing guide 68) formed from two halves with a slight gap in the middle (visible in Figs. 3 and 5 below).



Blankenship, Fig. 3 (excerpt). Fig. 5 below depicts a triangular-shaped gap in the center of the two halves:



Blankenship, Fig. 5 (excerpt).

A POSITA would have found it obvious that manufacturing a cylinder, such as *Holmberg's*, from two pieces, as taught by *Blankenship*, would have been merely a manufacturing design choice and that both cylinders, whether formed from one piece or two-piece construction, would have provided the same functionality—storing excess cable slack. *Dec.*, ¶¶100-101. A POSITA would have been motivated to use a two-piece construction technique to achieve additional weight and cost savings by reducing the amount of material used in wall box 200 and because smaller molds would be required to form semi-circular “partial” spools compared to a larger mold for a full cylinder, thus achieving additional cost savings and ease of manufacturing. *Dec.*, ¶¶100-101. Further, utilizing two separate halves, rather than a single unitary circular structure, provides flexibility to increase the amount of cable

the structure can support. *Id.* Indeed, the manufacturing process would be modified to separate the two halves by a certain amount, increasing the amount of cabling that can be wrapped without increasing the material cost. *Id.*

Thus, if first spools are interpreted consistently with the intrinsic record to be satisfied by two half circle structures, this limitation is satisfied by manufacturing *Holmberg's* spool structure 298 (including spool 300) using two-piece construction. *Dec.*, ¶¶100-102. Further, such a modification would not have required much additional space compared to a single piece construction, such that a two-piece construction cylinder would have nested within *Holmberg's* bend radius limiters without issues. *Dec.*, ¶¶100-102. A POSITA would have had a reasonable expectation of success when making such a modification for several reasons, including because using one- and two-piece construction for a cylinder was known and such a modification would not have required complicated changes to *Holmberg's* wall box. *Dec.*, ¶¶100-102.

Alternatively, a POSITA would have been motivated and found it obvious to replace *Holmberg's* spool structure 298 (including spool 300) with any of the other spool designs already expressly disclosed by *Holmberg*. For example, it would have been obvious to replace spool structure 298 (including spool 300) with two partial spools, such as partial spools 292, or even with the four structure “spools” design 260. *Dec.*, ¶103. Further, a POSITA would have found it obvious to duplicate spool

structure 298 (including spool 300) such that excess terminated fiber is stored on two separate circular spools instead of one. *Id.* A POSITA would have understood that each of these modifications would have advantageously provided additional cable slack storage. *Dec.*, ¶103. This is a straightforward design choice that would have been well within a POSITA's skills, allowing *Holmberg's* box to accommodate varying lengths of cable slack. *Dec.*, ¶103. Such a modification would have advantageously maximized slack storage capability of spool structure 298 (including spool 300) given the physical size limitations of wall box 200. *Dec.*, ¶103. Indeed, such a modification would have been use of a known technique of using two partial spools or two full spools instead of a single, full spool to advantageously improve *Holmberg's* spool structure 298 to achieve additional cable slack storage. *Dec.*, ¶103. Further, such a modification would have been simple substitution of common structural elements, yielding predictable results. *Dec.*, ¶103.

Further, during prosecution of the '483 Patent, both the US and foreign Examiners stated it was known and obvious to utilize partial spools instead of a single spool. '483 *FH*, 184, 186, 233; *Dec.*, ¶104 (discussing it was known to use a single structure or multiple, partial structures where in either case the result is the same—storing cable slack and maintaining a particular minimum bend radius to avoid damaging the fiber cable). Additionally, such a modification would have had a reasonable expectation of success because a POSITA would have understood that

Holmberg already teaches using several types of cable retaining mechanisms, including spool structure 298 (including spool 300), partial spools 292, and cable management members 260. *Dec.*, ¶105. Thus, *Holmberg* itself already teaches using partial spools and at least one full spool to store excess cable slack, and such a modification of using at least two partial spools or full spools on the reverse side of splice tray 230 would have merely utilized similar structures already taught by *Holmberg*. *Dec.*, ¶105. To the extent size is a concern, a POSITA would have understood how to modify *Holmberg* to accommodate such a modification and thus such a modification would have had a reasonable expectation of success. *Dec.*, ¶105.

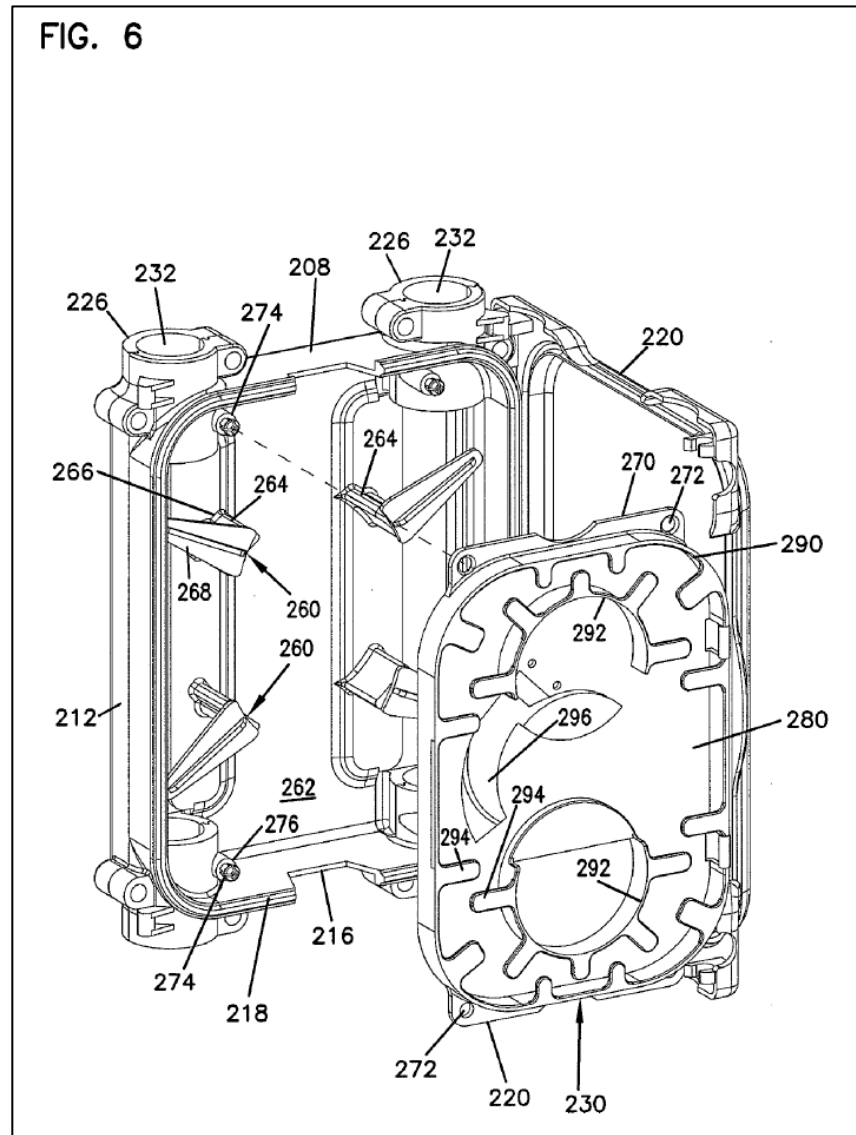
4. *Plurality of Distribution Cables and Second Spools*

Holmberg teaches the claimed “a plurality of distribution cables coupleable to the plurality of feed break-out cables.” As discussed above, *Holmberg* teaches each “terminated optical fiber can be spliced to a corresponding fiber of another cable (e.g., a distribution cable)[.]” *Holmberg*, [0053]. *Holmberg* teaches splicing each terminated fiber to a fiber of a distribution cable by accessing terminated fiber from spool structure 298. *Id.* *Holmberg* further teaches a plurality of such terminated fibers and distribution cable fibers. For example, *Holmberg* teaches distribution cables have “on the order of 12 to 48 fibers; however, alternative implementations may include fewer or more fibers.” *Holmberg*, [0005]. *Holmberg* teaches such 12 to 48 fibers may be split into “for example, 216 to 432 individual distribution fibers

that may be associated with a like number of end user locations.” *Id.* A POSITA would have found obvious *Holmberg*’s distribution cable taught at [0053] would likewise have comprised a plurality of fibers and further comprised a plurality of individual distribution cable fibers associated with a like number of end user locations. *Dec.*, ¶106. A POSITA would have understood or found obvious that *Holmberg*’s plurality of distribution cable fibers spliced to a plurality of terminated fibers thus would have met “distribution cables coupleable to the plurality of feed break-out cables[,]” as claimed, because splicing terminated fibers to distribution cable fibers couples said fibers to each other. *Dec.*, ¶¶106-107.

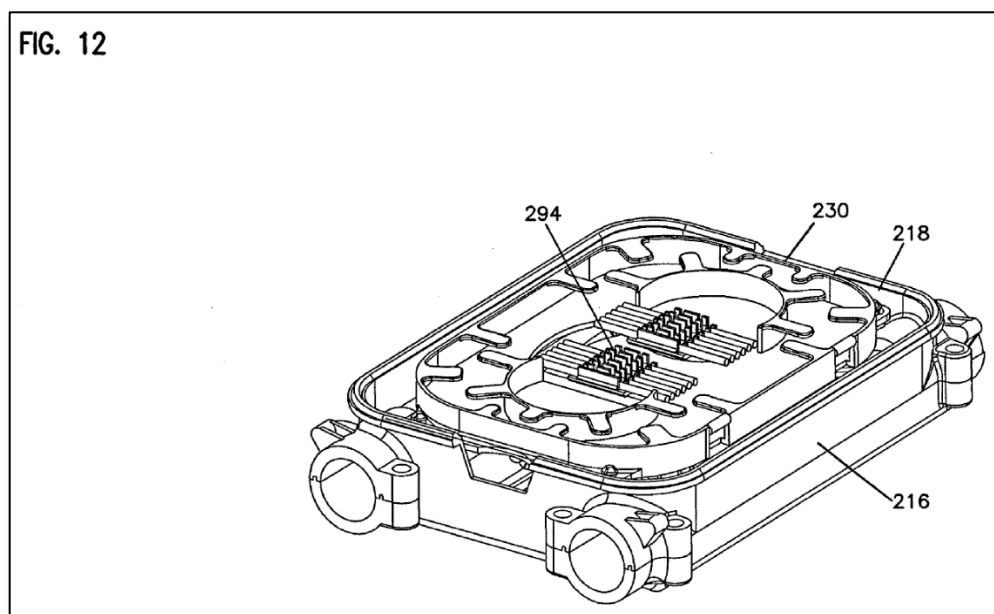
Holmberg teaches “second spools positioned to store a plurality of distribution cables[,]” using the same curved structures disclosed in the ’483 Patent. Specifically, *Holmberg* teaches splice tray 230 includes fiber storage walls 292 (“second spools”) on the “front” side of splice tray 230, where “[e]xcess 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], [0043] (“Two curved fiber storage walls 292 (e.g., partial spools) also project forwardly from the main panel 288. The fiber storage walls 292 have an outer curvature selected to provide bend radius protection to fibers routed about the exterior of the fiber storage walls 292. 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.”), *id.* (“Fiber retention fingers

294 project inwardly from the perimeter wall 290 and outwardly from the fiber storage walls 292 and function to assist in retaining fibers within the area defined between the wall 290 and the walls 292.”). *Holmberg’s* Fig. 6 below depicts said fiber storage walls 292 (“second spools”):



Holmberg, Fig. 6.

To the extent it is argued that *Holmberg* does not expressly teach storing excess distribution cable (“excess fiber”) using fiber storage walls 292, a POSITA would have found it obvious to do so. *Dec*, ¶¶109-110. Indeed, *Holmberg* teaches storing excess terminated fiber using spool structure 298. *Holmberg*, [0053]. *Holmberg* teaches terminated fiber is fed through openings 296 from the rear side of splice tray 230 to the front side of splice tray 230 and is spliced to a distribution cable with the “splice being mounted at the splice sleeve holder 294[.]” From there “[e]xcess 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]. Thus, a POSITA would have found it obvious to store excess distribution cable using fiber storage walls 292. *Dec*, ¶¶109-110. *Holmberg*’s Fig. 12 below depicts splice sleeve holder 294.



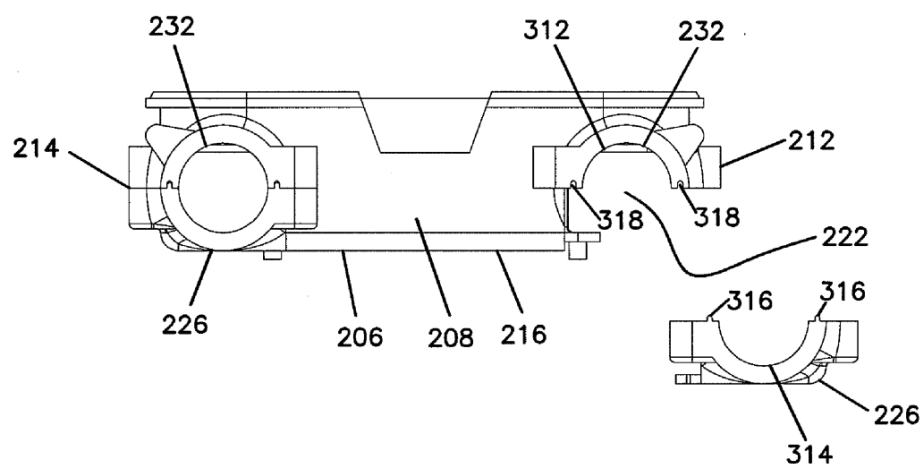
Holmberg, Fig. 12.

- F. Claim 11: The drop interface box of claim 1, wherein the drop cable entrance further comprises slots formed in the base unit and configured to receive a cable clip which clips over the drop cable, the slots and the cable clip forming a substantially weather tight seal with the base unit.**

See Claims 1, 10.

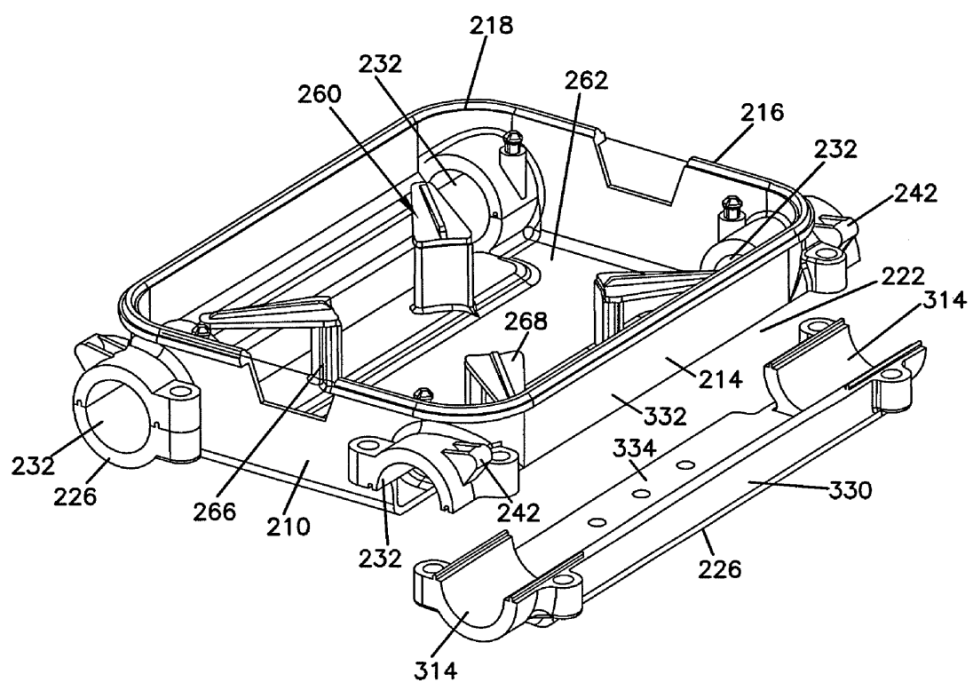
Holmberg teaches cable exit/enter openings 232 for a drop cable to enter. *Holmberg*, [0037], [0046]-[0047]. Said openings 232 also include a clamping portion 310 defined by first and second half cylinders. *Id.* *Holmberg* teaches main body 216 includes half cylinder 312 and a second half cylinder 314 is provided on cable cover 226. Specifically, *Holmberg* teaches each “cable clamping portion 310 is defined by a first half cylinder 312 integrally formed with the main body 216 and a second half cylinder 314 provided on one of the cable covers 226.” *Holmberg*, [0047]. Additionally, *Holmberg* teaches “[r]ails 316 provided at the second half cylinder 314 fit within corresponding slots 318 provided at the first half cylinder 312 to assist in maintaining alignment between the half cylinders 312, 314 during assembly and clamping.” *Holmberg*, [0047]. *Holmberg*’s Fig. 9 below depicts said rails 316, slots 318, and half cylinders 312, 314:

FIG. 9



Holmberg, Fig. 9. *Holmberg's* Fig. 10 below depicts another view of said components:

FIG. 10



Holmberg, Fig. 10, *see also* Figs. 5, 8, 11. A POSITA would have understood *Holmberg*'s slots 318 are formed in half cylinder 312 which is integrally formed with main body 216 ("base unit"). *Dec.*, ¶¶111-113. Further, a POSITA would have understood half cylinder 314 functions as a cable clip to "provide mechanical retention of the cable and also provide a seal around the perimeter of the cable jacket." *Holmberg*, [0048]. A POSITA would have found obvious such a seal would have been a substantially weather tight with main body 216 to prevent damage to the cables or other components in wall box 200 or to the wall box itself. *Dec.*, ¶¶111-113. Indeed, *Holmberg* teaches "inserts can be used within the clamping portions 310" to "accommodate cables having different outer diameters[.]" *Id.* Further, *Holmberg* teaches using wall box 200 in outdoor or indoor applications. *Holmberg*, [0034]. A POSITA would have understood from such a disclosure that *Holmberg*'s seal would have been substantially weather tight, especially for use in outdoor applications where wall box 200 would have been exposed to rain (or other sources of moisture), dust, or other potentially damaging conditions and where a substantially weather tight seal would have protected wall box 200. *Dec.*, ¶¶111-113.

**VI. GROUND 2: CLAIMS 2, 12, AND 13 ARE OBVIOUS OVER
HOLMBERG, BATTEY, AND BLANKENSHIP**

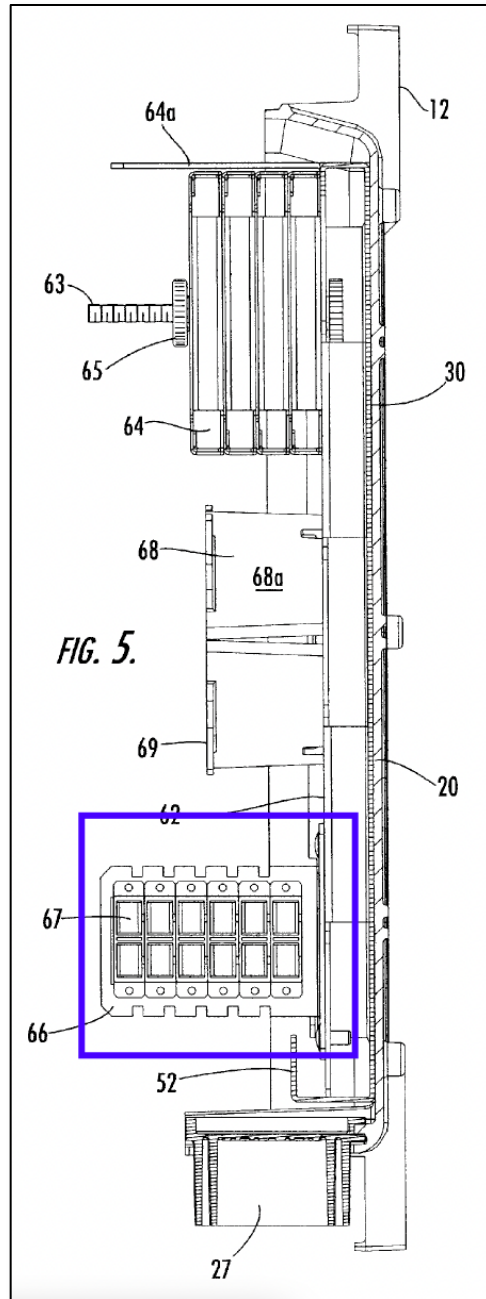
Ground 2 adds *Blankenship* to cover certain aspects of dependent claims 2, 12, and 13. In contrast with Ground 3 below, Ground 2 utilizes the same *second construction* of “drop cable” used in Ground 1. *See* Section III.C.

A. Claim 2: The drop interface box of claim 1, 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.

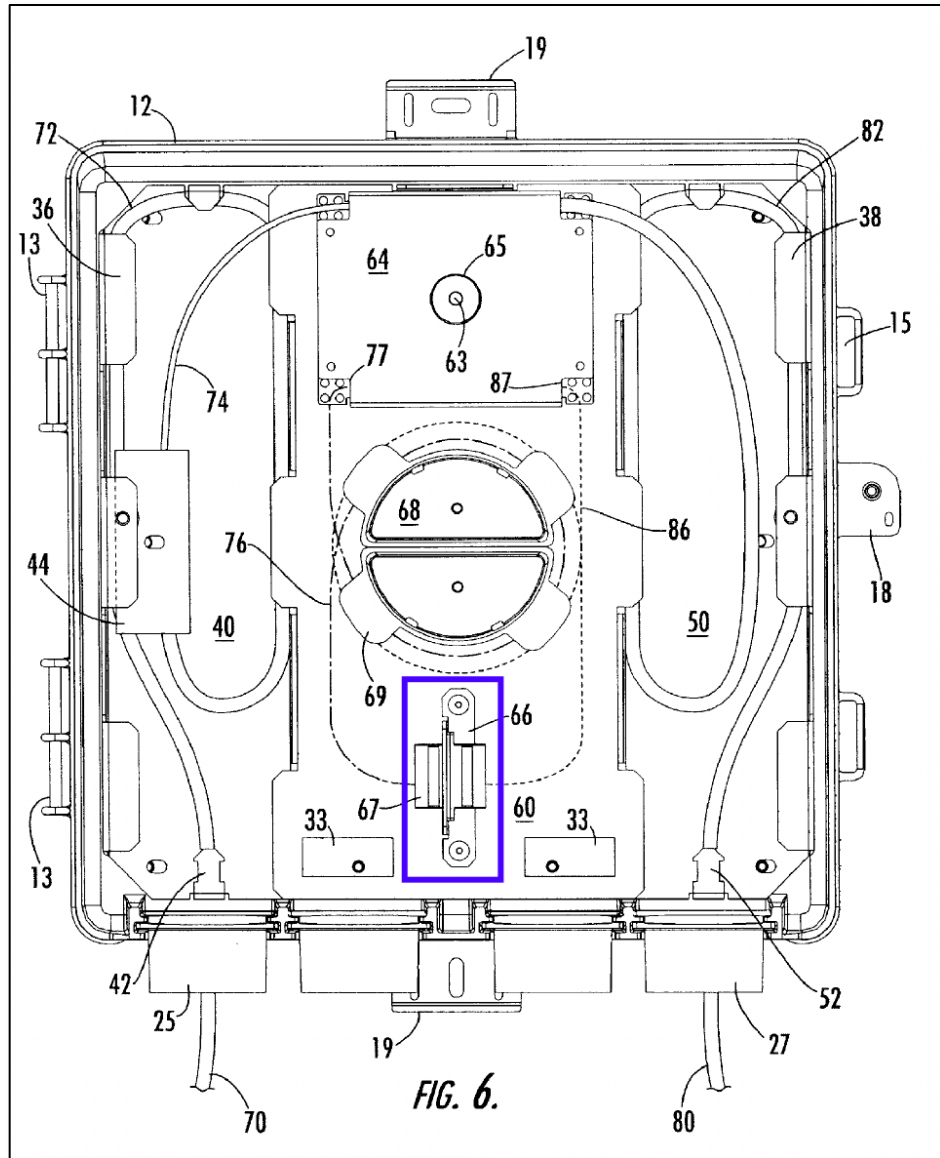
Holmberg in view of *Battey* teaches the claimed “fiber storage panel.” *See* Ground 1, Claim 1(d). *Holmberg-Battey* teaches Claim 1. *See* Ground 1, Claim 1. *Holmberg* teaches coupling a plurality of feed break-out cables to a plurality of distribution cables. *Id.* *Holmberg* does not expressly teach an adapter bracket configured to hold one or more adapters, as claimed. However, *Blankenship* teaches such.

Blankenship teaches an adapter bracket that is configured to hold one or more adapters which couple a plurality of feed break-out cables to a plurality of distribution cables. In particular, *Blankenship* teaches backplate 30 in the interior of base 12 of network interface device (NID) 10. *Blankenship*, 3:33-49, 3:64-4:1, 4:19-39, 4:61-5:8, 5:26-32, 5:57-59, Figs. 4-6. A POSITA would have understood that at least a portion of backplate 30 would have functioned as a fiber storage panel, similar to *Holmberg*’s splice tray 230. *Dec.*, ¶¶116-119.

Specifically, *Blankenship* teaches backplate 30 includes an “adapter bracket 66 for receiving the first connector and the second connector[,]” where the first connector is connected to “an optical fiber of the feeder cable from the first fiber management area 40” and the second connector is connected to “an optical fiber of the distribution cable from the second fiber management area 50[.]” *Blankenship*, 5:46-6:27, 7:53-59, 8:1-6. *Blankenship* further teaches “adapter bracket 66 comprises a plurality of adapters 67 for receiving the first connector and the second connector in optical alignment to join the optical fiber of the feeder cable and the optical fiber of the distribution cable.” *Blankenship*, 6:1-5. *Blankenship*’s Fig. 5 below depicts said adapter bracket 66 and plurality of adapters 67 (together annotated purple):



Blankenship, Fig. 5 (annotated). *Blankenship*'s Fig. 6 below depicts another view of adapter bracket 66 and a plurality of adapters 67 (together annotated purple):



Blankenship, Fig. 6 (annotated), *see also* Figs. 2-4.

A POSITA would have been motivated and found it obvious to modify *Holmberg-Bathey* 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. *Dec.*, ¶¶116-119. Indeed, such a use of a known technique of using an adapter bracket and adapters to connect a plurality of feed break-out cables and a

plurality of distribution cables would have advantageously improved *Holmberg-Batley* in the same way as *Blankenship*. *Dec.*, ¶¶116-119. 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 between the fibers of a plurality of feed break-out cables and a plurality of distribution cables. *Dec.*, ¶¶116-119.

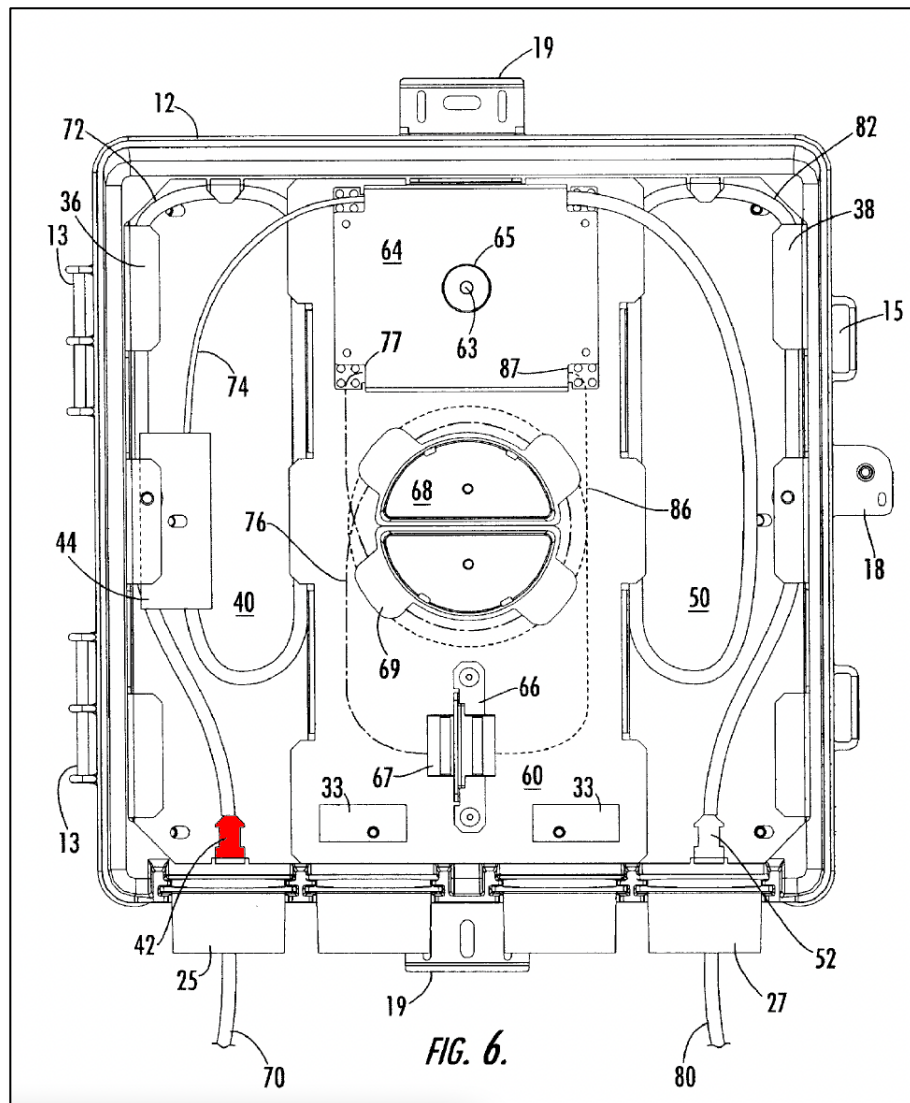
A POSITA would also have appreciated a reasonable expectation of success when making such a modification to *Holmberg-Batley* in light of *Blankenship*'s teachings. *Dec.*, ¶¶116-119. Indeed, adapter brackets and adapters for optically connecting different fibers was well known, with *Blankenship* teaching one example. *Dec.*, ¶¶116-119. Further, a POSITA would have understood that such a modification would not have required undue experimentation and would have been straightforward to implement. *Dec.*, ¶¶116-119.

B. Claim 12: The drop interface box of claim 11, and further comprising a strain-relief clamp coupled to the base unit proximate the drop cable entrance.

See Ground 1, Claim 11.

Blankenship teaches strain relief bracket 42 proximate to where feeder cable 70 enters NID 10. For example, *Blankenship* teaches “the feeder cable 70 is st[r]ain relieved at strain relief bracket 42[.]” *Blankenship*, 6:42-43, 4:28-31 (“[T]he feeder cable may be strain relieved as it enters the first fiber management area 40, and slack

lengths of the feeder cable and/or optical fiber of the feeder cable may be stored therein.”), 4:32-35 (“[S]train relief bracket 42 for strain relieving the feeder cable with a clamping device (not shown), such as a cable wrap, adjacent the first port 25.”). *Blankenship’s* Fig. 6 below depicts strain relief bracket 42 (annotated red) proximate the entrance of feeder cable 70:



Blankenship, Fig. 6 (annotated).

A POSITA would have been motivated and found it obvious to modify *Holmberg-Batthey* to utilize a strain relief bracket/clamping device, such as taught by *Blankenship*, to provide strain relief for a drop cable proximate to the drop cable entrance. *Dec.*, ¶¶121-124. Such a use of a known technique would have advantageously improved *Holmberg-Batthey* in the same way as *Blankenship. Dec.*, ¶¶121-124. A POSITA would have been motivated to modify *Holmberg-Batthey* to provide strain relief to protect the fiber optic cables entering wall box 200, especially because it was well known that fiber optic cables have a minimum bend radius and may be damaged by sharp bends or other sources of strain. *Dec.*, ¶¶121-124.

Further, a POSITA would have understood or at least found obvious that when modifying *Holmberg-Batthey* to include a strain relief bracket/clamping device per *Blankenship's* teachings that the strain relief bracket/clamping device would have been coupled to *Holmberg's* base unit. *Dec.*, ¶¶121-124. Indeed, *Holmberg* does not teach a “backplate 30” such as taught by *Blankenship*, and the “drop cable” enters *Holmberg* at opening 232 of main body 216 rather than through splice tray 230. A POSITA would have found obvious that when modifying *Holmberg-Batthey* per *Blankenship's* teachings that a strain relief bracket/clamping device to provide strain relief for an entering drop cable would thus have been coupled to the base unit to provide said strain relief. *Dec.*, ¶¶121-124.

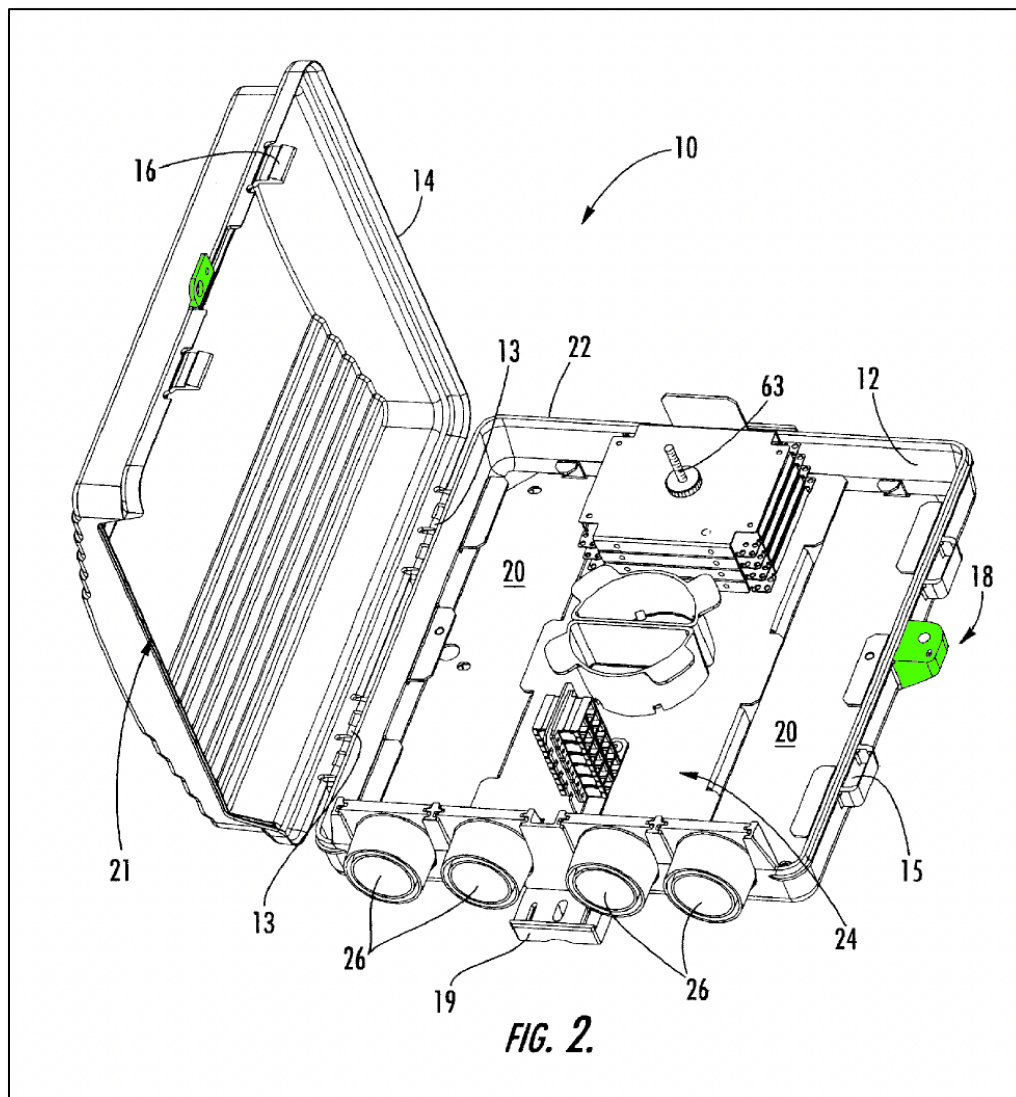
A POSITA also would have appreciated that such a modification would have had a reasonable expectation of success. *Dec.*, ¶¶121-124. Strain relief brackets/clamping devices were well known in the prior art, with *Blankenship* teaching one example. *Dec.*, ¶¶121-124. Indeed, strain relief for optical cables was well known and widely utilized, such that modifying *Holmberg-Battey* to utilize a strain relief bracket/clamping device would not have required undue experimentation and would have been straightforward to implement. *Dec.*, ¶¶121-124.

C. Claim 13: The drop interface box of claim 1, and further comprising a security mechanism for securing the cover to the base unit in a closed position.

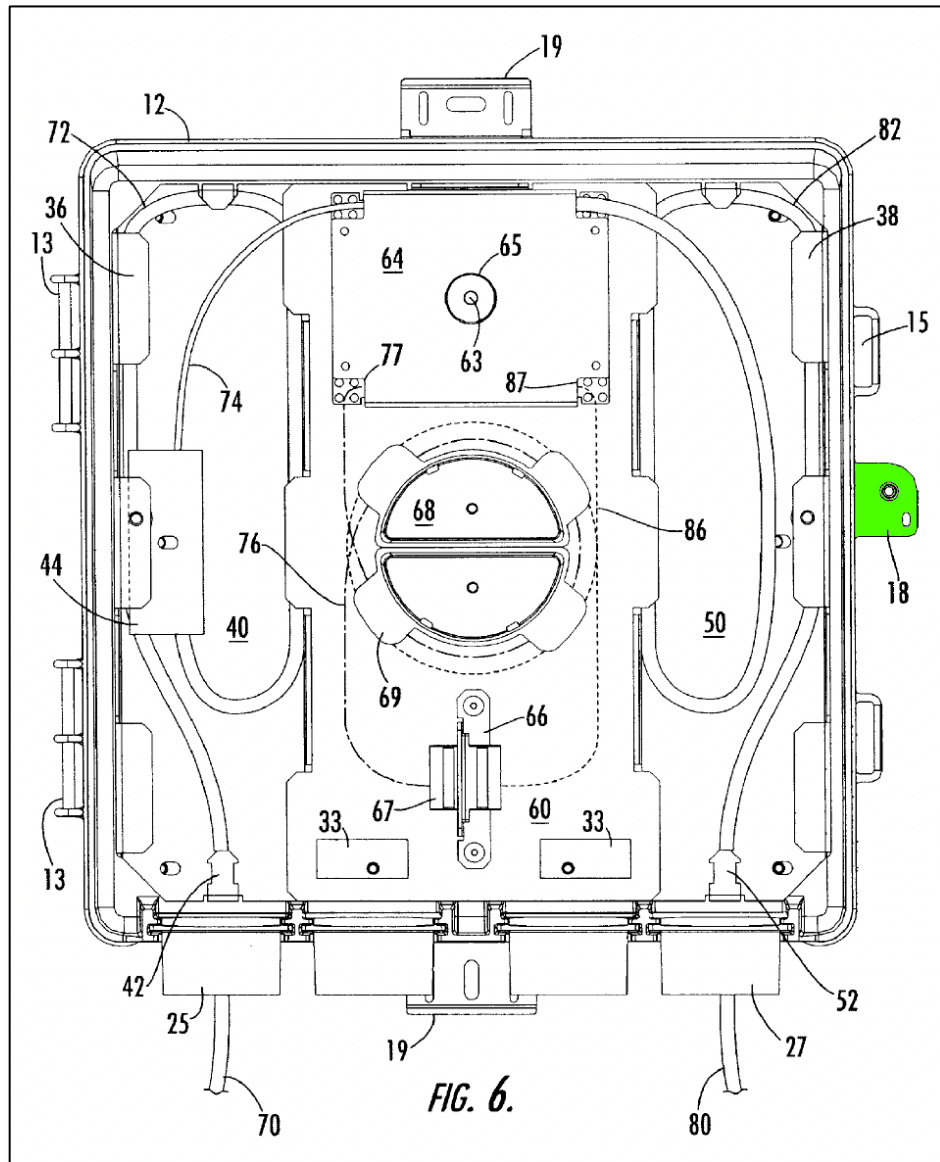
Holmberg-Battey teaches Claim 1. *See* Ground 1, Claim 1.

Blankenship teaches several security mechanisms for securing cover 14 to base 12. For example, *Blankenship* teaches “means 18 opposite the hinges 13 for locking the cover 14 on the base 12. For example, means 18 may comprise a locking screw 17 that requires an industry specific tool to remove.” *Blankenship*, 2:50-54. In another example, *Blankenship* teaches “[a]lternatively, means 18 may comprise aligned openings through the base 12 and the cover 14 that receive a combination or key lock (not shown) belonging to the subscriber.” *Blankenship*, 2:54-57. In another example, *Blankenship* teaches “[a]lternatively, the NID 10 may be mounted outside the subscriber premises and the cover 14 locked on the base 12, as described

hereinabove, to prevent unauthorized access to the optical components and connections housed within the NID 10.” *Blankenship*, 2:61-65. A POSITA would have understood from *Blankenship*’s aforementioned teachings that means 18 would thus have been a security mechanism for securing cover 14 to base 12 in a closed position. *Dec.*, ¶¶126-129. *Blankenship*’s Fig. 2 below depicts means 18 (annotated green) for securing cover 14 to base 12 in a closed position:



Blankenship, Fig. 2 (annotated). A POSITA would have understood or at least found obvious that the portion annotated green on cover 14 would have worked with means 18 to secure cover 14 to base 12. *Dec.*, ¶¶126-129. Similarly, *Blankenship* teaches means 18 (annotated green) as depicted in Fig. 6 below:



Blankenship, Fig. 6 (annotated), see also Figs. 1, 3.

A POSITA would have been motivated and found it obvious to modify *Holmberg-Batley* in view of *Blankenship*'s teachings to secure *Holmberg*'s cover 220 to main body 216. *Dec.*, ¶¶126-129. Indeed, such a modification would have been use of a known technique of using a securing mechanism (e.g., locking screw, combination lock, key lock) to advantageously provide security for *Holmberg-Batley*'s cover in the same way as *Blankenship*. *Dec.*, ¶¶126-129. A POSITA would have been motivated and found it obvious to modify *Holmberg-Batley* to advantageously improve security for the cover to “prevent unauthorized access to the optical components and connections housed within” *Holmberg*'s wall box 200, as taught by *Blankenship*. *Dec.*, ¶¶126-129. Indeed, *Holmberg* expressly teaches using wall box 200 in either indoor or outdoor applications. Modifying *Holmberg-Batley* according to *Blankenship*'s teachings would have advantageously secured wall box 200 with cover 220 in a closed position relative to main body 216 to prevent tampering, unauthorized access, or even potential damage from wall box opening due to inclement weather (such as wall box 200 opening due to high winds in a storm, which would allow water to damage cables or other components inside wall box 200). *Dec.*, ¶¶126-129.

Additionally, a POSITA would have understood that such a modification would have had a reasonable expectation of success. *Dec.*, ¶¶126-129. Securing mechanisms for wall boxes / NIDs were well known, with *Blankenship* teaching

examples. *Dec.*, ¶¶126-129. Further, such a modification would not have required undue experimentation and would have been straightforward, requiring only minor changes to accommodate, for example, minor changes to wall box 200 to accommodate a locking screw, combination or key lock, or other securing mechanism. *Dec.*, ¶¶126-129.

VII. GROUND 3: CLAIMS 1-2, 11-13 ARE OBVIOUS OVER *HOLMBERG, BATTEY*, AND *BLANKENSHIP*

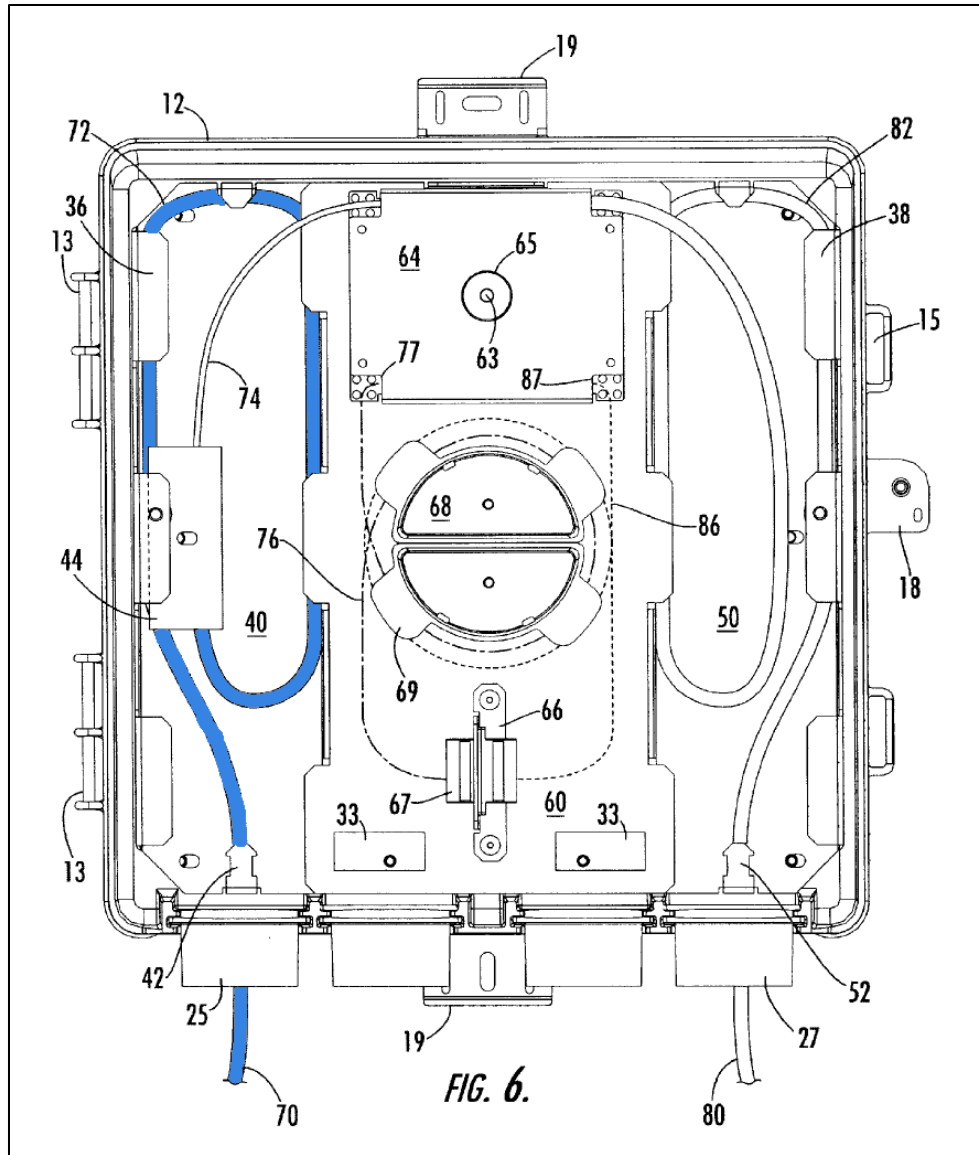
Ground 3 advances the same *Holmberg-Battey* combination as Grounds 1-2, but adds *Blankenship*, which teaches a jacketed drop cable retains its external jacket as it enters and is routed inside the box. This additional modification satisfies the *first construction* of “drop cable,” i.e., the interpretation that aligns with the intrinsic record. *See* Section III.C. As described in detail below, a POSITA would have been motivated and found it obvious to modify *Holmberg-Battey* to incorporate *Blankenship*’s teachings of storing a length of a jacketed drop cable in a drop interface box. *Dec.*, ¶¶130, 136-139. Further, as mapped for Ground 2, *Blankenship* teaches certain aspects of several dependent claims.

A. Claim 1(Pre): A drop interface box configured to be mounted to a structure and to receive a drop cable from an optical fiber service provider distribution point and a plurality of distribution cables which distribute the optical fiber service, the drop interface box comprising:

Holmberg teaches a wall box 200 (“drop interface box”) that is configured to be mounted to a structure such as a wall or pole. *See supra* Ground 1, Claim 1.

Further, a POSITA would have found obvious that *Holmberg*'s jacketed cable with at least a portion of said jacket being stripped inside wall box 200 is "from an optical fiber service provider distribution point[,]" as claimed. *See supra* Ground 1, Claim 1. Additionally, *Holmberg* teaches the claimed "a plurality of distribution cables which distribute the optical fiber service[.]" *See supra* Ground 1, Claim 1.

Blankenship teaches NID 10 including a "feeder cable" ("drop cable") 70 that "is a drop cable from a fiber optic closure, remote terminal, or other local access point in an optical network." *Blankenship*, 6:28-35. Further, *Blankenship* teaches feeder cable 70 "comprises a relatively flexible jacket made of a weatherproof material, such as plastic, for protecting at least one, and preferably at least a pair, of optical fibers." *Blankenship*, 6:35-40, 8:1-6. *Blankenship*'s Fig. 6 below depicts feeder cable 70 ("drop cable") entering NID 10 through first port 25:



Blankenship, Fig. 6 (annotated), 6:28-56; Dec., ¶¶131-132. A motivation to modify *Holmberg* in view of *Blankenship* is provided for Claim 1(a). See Claim 1(a).

- B. Claim 1(a): a base unit having a drop cable entrance configured to receive the drop cable and having drop cable retaining mechanisms spaced apart and configured to retain a length of drop cable looped around the drop cable retaining mechanisms;**

Holmberg in view of *Blankenship* renders obvious Claim 1(a).

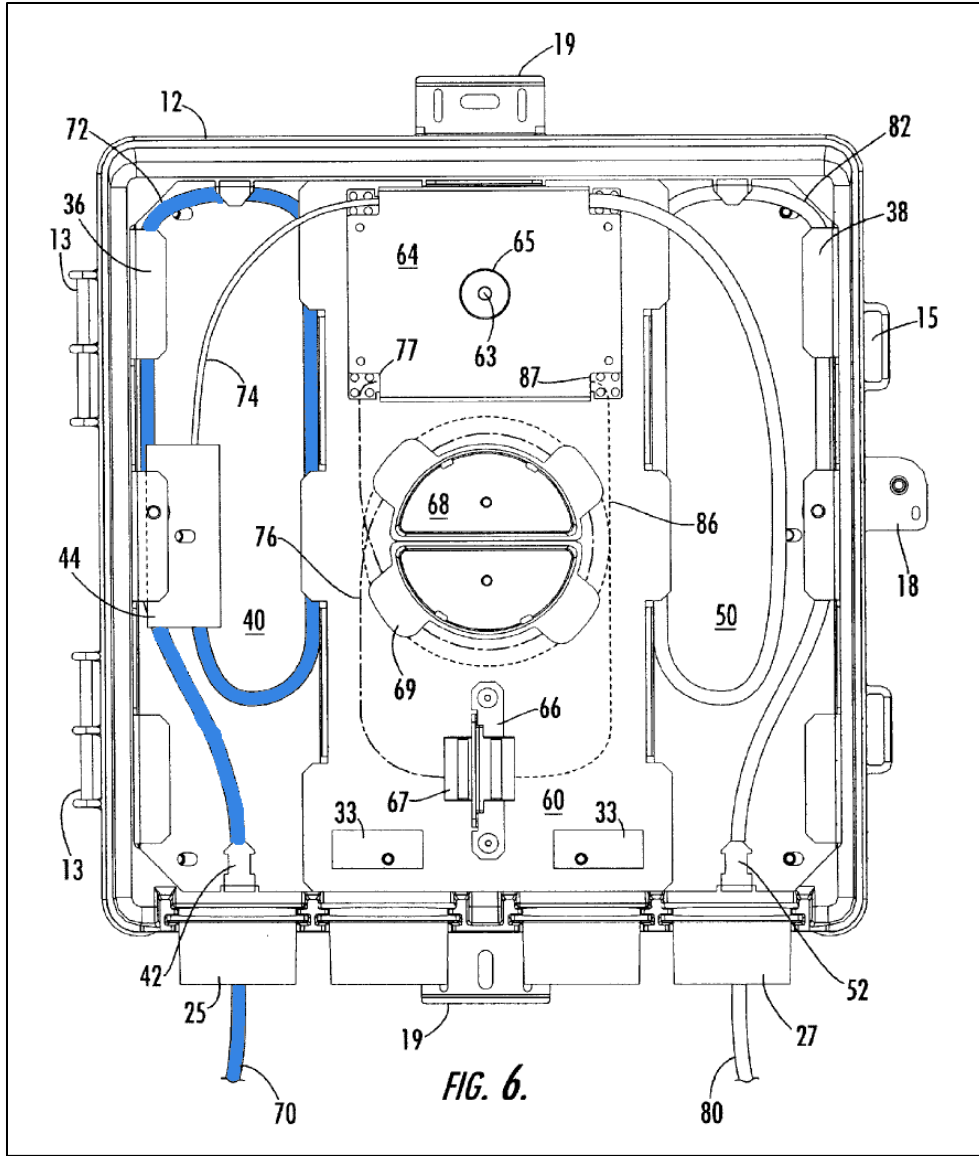
1. *Holmberg's Teachings*

Holmberg teaches wall box 200 has main body 216 (“base unit”). As discussed above, *Holmberg* teaches a drop cable entrance, namely cable exit/enter openings 232 (formed from half cylinders 312, 314) that include clamping portions 310. *See* Ground 1, Claim 1(Pre). In particular, *Holmberg* teaches cable exit/enter openings 232 for “allowing the portions of the telecommunications cable located upstream and downstream of the mid-span access location to enter and exit the enclosure 202.” *Holmberg*, [0037], [0046]-[0048], [0052]-[0054], Figs. 3-10; *Dec*, ¶133. Therefore, a POSITA would have understood that *Holmberg* teaches wall box 200 receives a jacketed cable. *Dec*, ¶133. Further, *Holmberg* teaches bend radius limiters 264 (“drop cable retaining mechanisms spaced apart and configured to retain a length ... looped around ... retaining mechanisms”) within main body 216 that retain a length of stripped cable. *Holmberg*, [0052]. However, *Holmberg* does not expressly teach storing a length of jacketed cable (“drop cable”) within main body 216 of wall box 200 using bend radius limiters 264. Specifically, *Holmberg* teaches stripping the outer jacket from the cable inside wall box 200. *Holmberg*, [0052]. *See* Ground 1, Claim 1.

2. *Blankenship's Teachings*

As discussed below, *Blankenship* teaches storing a length of jacketed cable within NID 10 similar to *Holmberg's* wall box 200. *Dec.*, ¶¶134-135. *Blankenship*

teaches NID 10 includes base 12 in which slack length 72 of feeder cable 70 (“drop cable”) is stored. Specifically, *Blankenship* teaches feeder cable 70 (“drop cable”) “is a drop cable from a fiber optic closure, remote terminal, or other local access point in an optical network.” *Blankenship*, 6:28-35. Further, *Blankenship* teaches feeder cable 70 “comprises a relatively flexible jacket made of a weatherproof material, such as plastic, for protecting at least one, and preferably at least a pair, of optical fibers.” *Blankenship*, 6:35-40, 8:1-6. Additionally, *Blankenship* teaches “a slack length 72 of feeder cable 70 is routed within the first fiber management area 40 in a clockwise direction under the retaining flanges 36.” *Blankenship*, 6:44-46, 6:28-56; *Dec.*, ¶¶134-135. Annotated Fig. 6 below depicts feeder cable 70 (annotated blue) entering *Blankenship*’s NID 10 via first port 25 and depicts feeder cable 70 is strain relieved at “strain relief bracket 42,” and further depicts feeder cable 70 slack length 72 is routed under retaining flanges 36:



Blankenship, Fig. 6 (annotated); *Dec.*, ¶¶134-135.

3. *Motivation to Combine Holmberg and Blankenship*

As discussed above in Ground 1, *Holmberg* teaches stripping the external jacket of a cable as it enters the box. *Holmberg*, [0052]. In light of *Blankenship*'s teachings, a POSITA would have been motivated and found it obvious to modify *Holmberg* to retain the jacket, allowing a length of jacketed cable ("drop cable") to

be retained within main body 216 of wall box 200. *Dec.*, ¶¶136-139. Such a use of a known technique of storing a slack length of jacketed drop cable per *Blankenship's* teachings would have advantageously modified *Holmberg* to store a length of externally jacketed cable within wall box 200 in the same way as *Blankenship. Dec.*, ¶¶136-139. A POSITA would have found such a modification advantageous for several reasons, including providing extra slack length of jacketed cable for situations where additional cable length of jacketed cable is needed and because such would have reduced the amount of jacket to be stripped by a technician in the field. *Dec.*, ¶¶136-139. A POSITA would have further understood the value in providing technicians with the flexibility to utilize either externally jacketed and pre-connectorized drop cables or stripped and internally spliced cables. *Dec.*, ¶¶136-139 (explaining that network providers often have varying needs and preferences and noting that the proposed flexibility would have beneficially expanded the possible client base). Further, a POSITA would have been familiar with drop cables that provide mid-span access in a pre-connectorized arrangement, which is one of the scenarios the proposed combination seeks to accommodate. *Dec.*, ¶¶136-139 (discussing U.S. Patent No. 7,088,893, which describes a “fiber optic distribution cable” with “pre-connectorized mid-span access location(s)”).

A POSITA would also have understood that *Holmberg's* design is not limited to mid-span access and would instead accommodate terminating access—the

scenario in which a pre-connectorized and jacketed drop cable is commonly utilized. *Dec.*, ¶¶136-139 (explaining that it would have been obvious to use the same box for both mid-span access and terminating access, requiring only that the egress drop cable pass through openings are capped in a terminating arrangement). A POSITA would have understood using the same box for mid-span and terminating locations creates manufacturing and installation efficiencies. *Dec.*, ¶¶136-139.

Such a modification would also have had a reasonable expectation of success because *Holmberg* and *Blankenship* teach similar devices (e.g., wall box 200, NID 10) for storing optical cables and both teach storing cable slack. *Dec.*, ¶¶136-139. Further, storing excess drop cable in an enclosure box was well known in the art, with *Blankenship* as one example. *Dec.*, ¶¶136-139 (discussing *Blankenship* and *Bloodworth* both teaching such). Further, *Holmberg* already teaches cable management members 260 including cable retention members 268 and bend radius limiters 264 for storing a length of excess cable. *Holmberg*, [0041], [0044], [0052]; *Dec.*, ¶¶136-139. Thus, modifying *Holmberg* according to *Blankenship*'s teachings would have had a reasonable expectation of success and further would have been straightforward and would not have required undue experimentation. *Dec.*, ¶¶136-139.

C. Claim 1(b)

See Ground 1, Claim 1(b).

D. Claim 1(c)

See Ground 1, Claim 1(c).

E. Claim 1(d)

Holmberg in view of *Blankenship* teaches the claimed “drop cable.” *See* Ground 3, Claims 1(Pre), 1(a). *Holmberg* in view of *Battey* teaches the claimed “fiber storage panel” and first and second spools. *See* Ground 1, Claim 1(d).

F. Claim 2

See Ground 3, Claim 1; Ground 2, Claim 2.

G. Claim 11

See Ground 1, Claims 1, 10, 11; Ground 3, Claim 1.

H. Claim 12

See Ground 1, Claim 11; Ground 2, Claim 12.

I. Claim 13

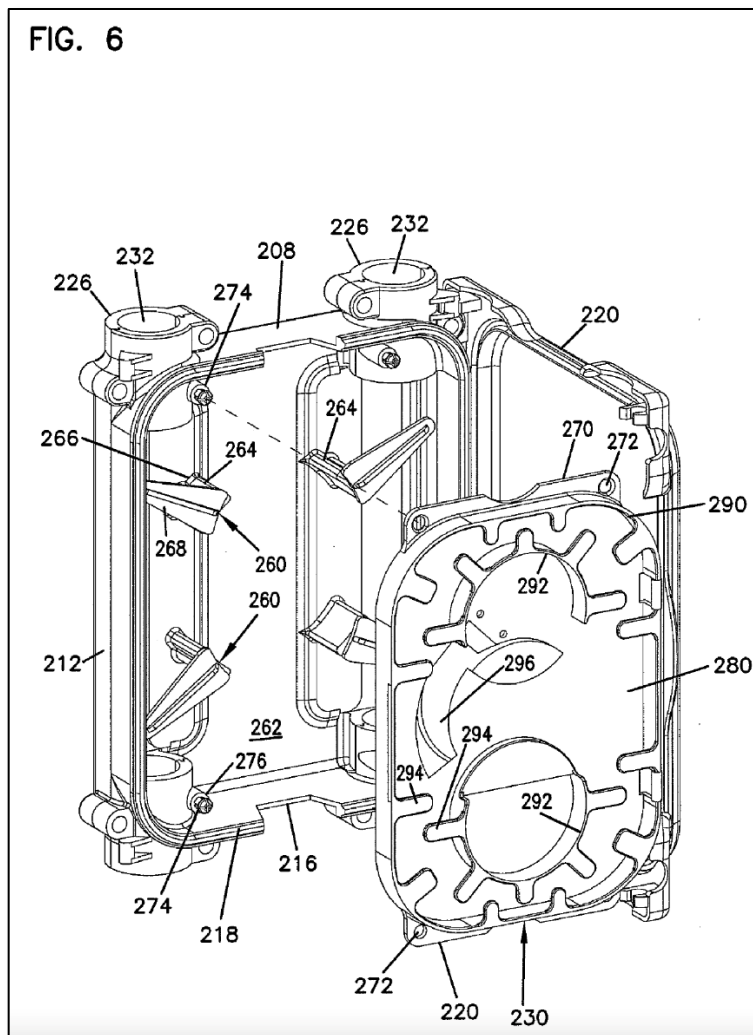
Holmberg-Battey-Blankenship teaches Claim 1. *See* Ground 3, Claim 1. *See* Ground 2, Claim 13.

VIII. GROUNDS 4 AND 5: CLAIM 10 IS OBVIOUS OVER *HOLMBERG, BATTEY, AND COWEN* OR OVER *HOLMBERG, BATTEY, BLANKENSHIP* AND *COWEN*

Claim 10 depends from Claim 1, further specifying that “the drop cable retaining mechanisms in the base unit comprise *storage clips* positioned on opposing sides of the base unit.” Grounds 4 and 5 add *Cowen* for its storage clips teachings to the combinations mapped against Claim 1 in Grounds 1 and 3.

1. *Holmberg's Teachings*

Holmberg teaches cable management members 260 spaced apart and that are configured to retain a loop of stripped cable (“drop cable”) wrapped around said cable management members 260 (“drop cable retaining mechanisms”). Specifically, *Holmberg* teaches cable management members 260 include bend radius limiters 264 and cable retention members 268 within main body 216. *Holmberg*, [0041], [0045], [0052]; *Dec.*, ¶¶148-149. As depicted in Fig. 6 below, *Holmberg's* cable management members 260 are located on opposing sides of main body 216:



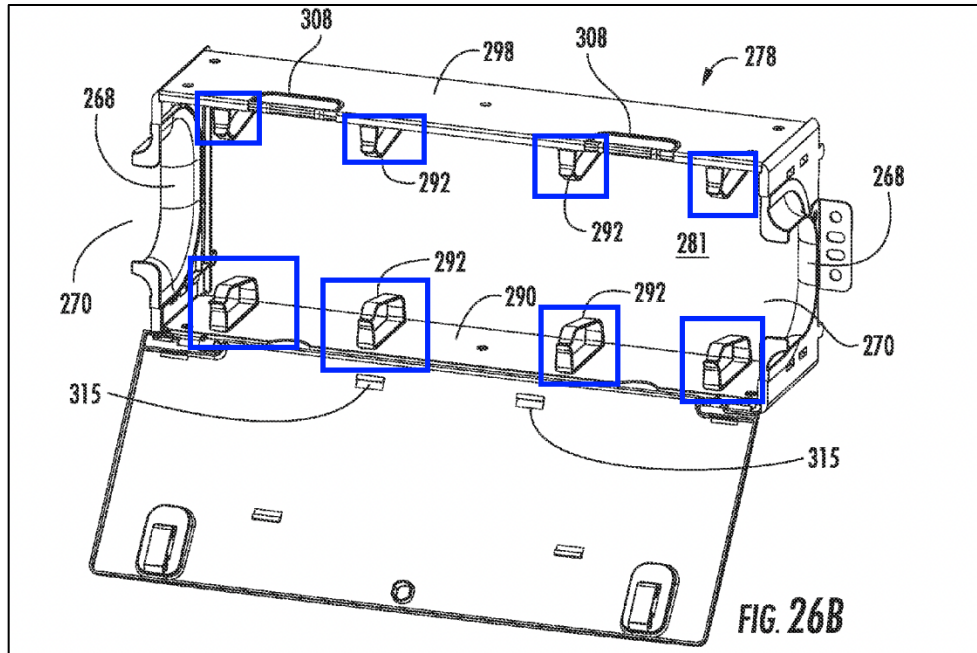
Holmberg, Fig. 6; *Dec.*, ¶¶148-149. Similarly, *Holmberg's* Fig. 10 depicts cable management members 260 located on opposing sides of main body 216:



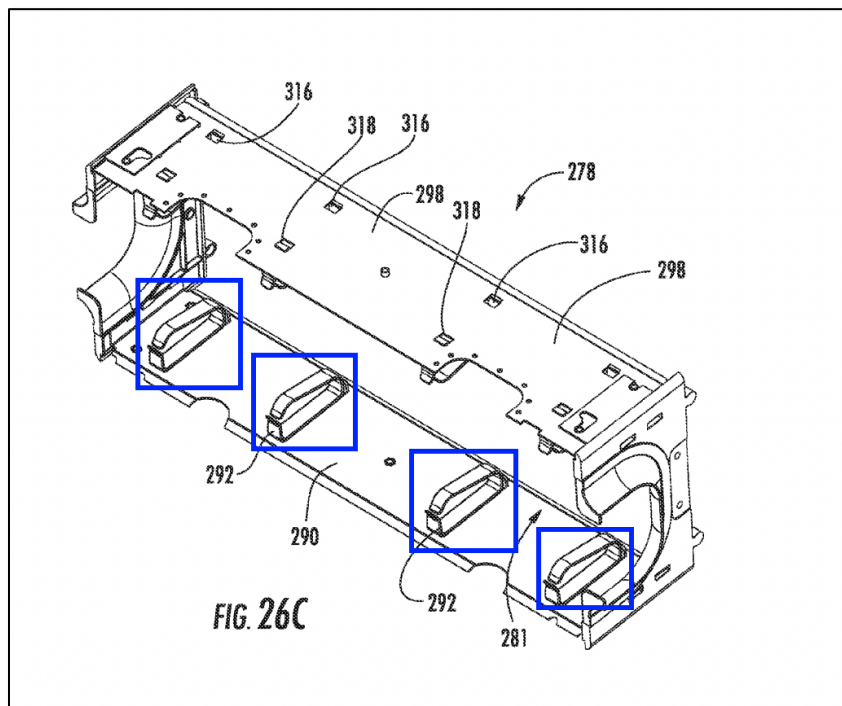
Holmberg, Fig. 10. While *Holmberg* teaches cable management members 260 for routing drop cable, *Holmberg* does not expressly teach the claimed “storage clips.”

2. Cowen's Teachings

Cowen teaches the claimed storage clips. *Cowen* teaches clips 292 that are “used for routing control and management of fiber optic cables and optical fibers, including but not limited to fiber optic jumper cables. The fiber optic jumper cables, or other fiber optic cables and optical fibers, may be routed through one or more of the plurality of clips 292[.]” *Cowen*, 27:41-50. *Cowen* also teaches clips 292 include hook 318 to fit into receiver 316 to attach clip 292 to a panel. *Cowen*, 27:57-28:7. Annotated Fig. 26B below depicts a plurality of clips 292 (annotated blue) for routing control and management of fiber optic cables.

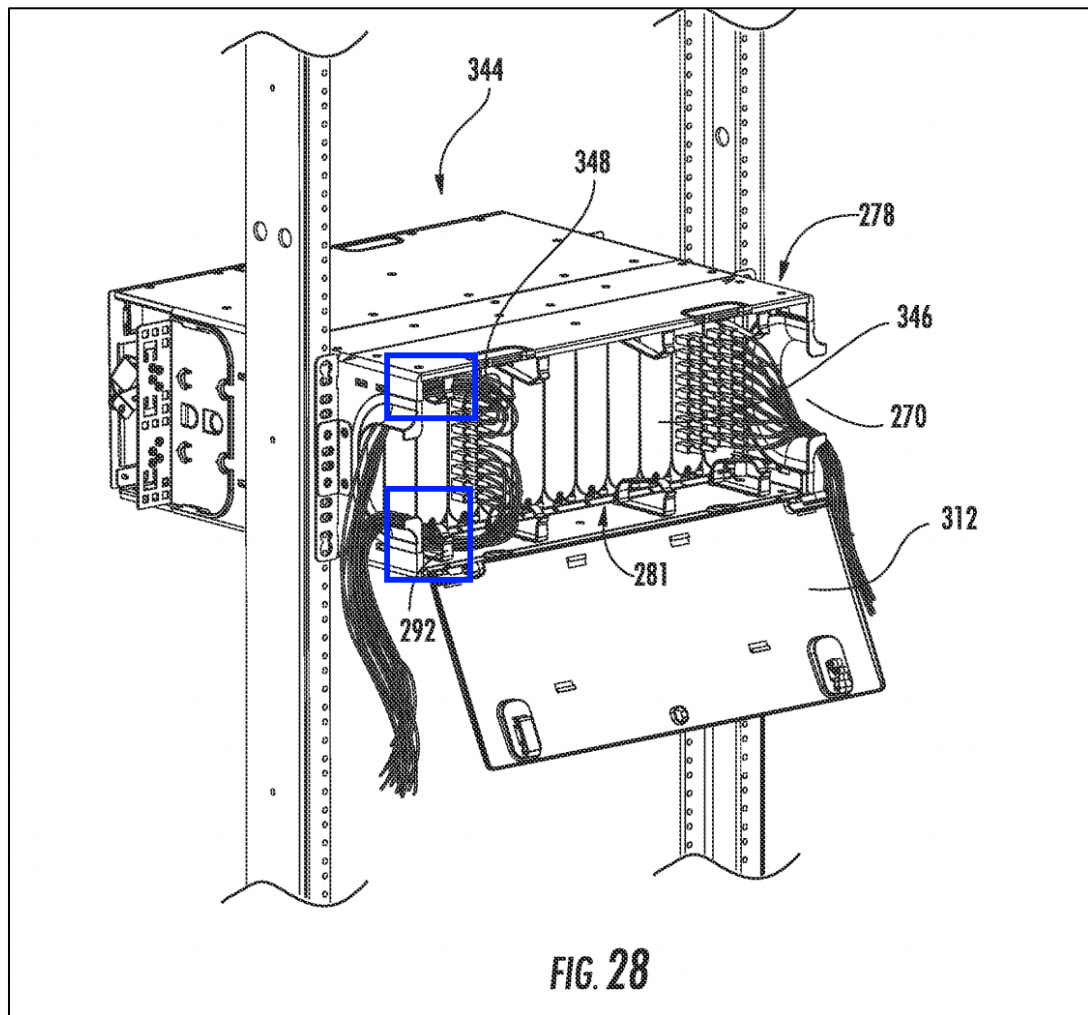


Cowen, Fig. 26B (annotated). Similarly, annotated Fig. 26C below depicts a plurality of clips 292 (annotated blue) for routing control and management of fiber optic cables.



Cowen, Fig. 26C (annotated).

Annotated Fig. 28 below depicts a plurality of clips 292 and in particular a clip 292 on top and a clip 292 on bottom (both annotated blue) for routing control and management of fiber optic cables where fiber optic cables are routed through said clips 292.



Cowen, Fig. 28 (annotated).

3. Motivation to Combine Holmberg-Batley and Cowen

A POSITA would have been motivated and found it obvious to modify *Holmberg-Batley* (as set forth in Ground 1) or *Holmberg-Blankenship-Batley* (as set forth in Ground 3) in light of *Cowen*'s teachings to utilize storage clips for routing control and management of fiber optic cables. *Dec.*, ¶¶149-155, 157. Such a modification would supplement or replace *Holmberg*'s cable management members 260. *Dec.*, ¶¶149-155, 157. A POSITA would have understood that clips can improve cable routing, and that placing a plurality of clips on opposing sides of main body 216 (e.g., between cable management members 260 or at intervals away from said members 260) would have provided more options for cable routing and management, improving product flexibility. *Dec.*, ¶¶149-155, 157. Additionally, a POSITA would have understood that clips fully encompass the fibers, improving security, particularly during installation. *Dec.*, ¶¶149-155, 157 (explaining that replacing *Holmberg*'s 260 members with full clips pursuant to *Cowen* would have provided the installation benefit of fully retaining the fibers even when those fibers are not wrapped tightly around the full retaining mechanism).

Such a modification would have combined prior art elements such as clips 292 and *Holmberg*'s wall box 200 (including main body 216) according to known methods as taught by *Cowen* to predictably yield improved cable routing and management. *Dec.*, ¶¶149-155, 157. Indeed, a POSITA would have understood that

such a use of a known technique would have advantageously improved *Holmberg-Battey's* cable management in the same way as *Cowen's Dec.*, ¶¶149-155, 157.

A POSITA would have had a reasonable expectation of success when making such a modification. Modifying *Holmberg* according to *Cowen's* teachings would have been straightforward, such as by utilizing *Cowen's* hooks 318 and receivers 316 to attach clips 292 to one or more of the sides of *Holmberg's* main body 216. *Dec.*, ¶¶149-155, 157. Further, utilizing storage clips for cable routing and management was well known in the prior art, with *Cowen* teaching one example. *Dec.*, ¶¶149-155, 157.

IX. FINTIV

The Board may consider parallel litigation in determining whether to institute under 35 U.S.C. § 314(a). *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 2–3, 6 (PTAB Mar. 20, 2020) (precedential). Petitioner addresses below the factors that are most commonly determinative, but reserves the right to seek a Reply to the Preliminary Response to address the facts and law as they stand at that time.

A. Stay

A stay is likely, favoring institution. In prior disputes between Patent Owner and Petitioner in the District of Delaware (like here), the parties have stipulated to stay the litigation pending IPR. *Stipulation* (Ex. 1017). Even if no stipulation is agreed to here, however, Petitioner intends to seek a stay, and the district statistics

strongly suggest such a request would be granted. *Stay Article* (Ex. 1018) (noting that 79% of stay motions are granted and that stay motions may be denied if the IPR challenges only some asserted claims). Because the instant IPR is filed early in the litigation schedule and challenges all asserted claims, a stay is almost certain.

B. Proximity of the Court’s Trial Date

A final written decision (“FWD”) is expected in March 2025, and a trial date is currently scheduled to occur *after* the FWD on April 14, 2025. *Scheduling Order* (Ex. 1019). Recent guidance⁷ from the PTAB recognizes that scheduled trial dates are often unreliable and allows the Board to consider time-to-trial statistics. Here, the District of Delaware is experiencing a median 36.7 months from filing to trial, which would push the parties’ expected trial date *even later* to November 2025. *Trial Stats* (Ex. 1020), 14. Accordingly, this factor strongly favors institution.

C. Investment in Parallel Proceeding

Favoring institution, the parties have invested little in the parallel proceeding—a *Markman* hearing is not scheduled to occur until January 2024. *Scheduling Order*, 16.

⁷https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf.

X. CONCLUSION

For the forgoing reasons, Petitioner respectfully requests *inter partes* review of the Challenged Claims of the '483 Patent.

Respectfully submitted,

September 13, 2023

BY: /s Paul R. Hart/
Paul R. Hart (Reg. No. 59,646)
Paul.Hart@eriseip.com
ERISE IP, P.A.
5299 DTC Blvd., Ste. 1340
Greenwood Village, Colorado 80111
Telephone: (913) 777-5600
Fax: (913) 777-5601

COUNSEL FOR PETITIONER

XI. MANDATORY NOTICES

A. Real Party-In-Interest

For purposes of 35 U.S.C. § 312(a)(2) and 37 C.F.R. § 42.8(b)(1) only, Petitioner Amphenol identifies the real parties-in-interest as Amphenol Corp. and Charles Industries, LLC.

B. Related Matters

Pursuant to 37 C.F.R. § 42.8(b)(2), Amphenol identifies the following matters related to the '483 Patent:

- *PPC Broadband, Inc. v. Charles Industries, LLC*, et al., 1-22-cv-01517-GBW (D. Del. Nov. 21, 2022)

C. Lead and Back-Up Counsel

Petitioner provides the following designation and service information for lead and back-up counsel. 37 C.F.R. § 42.8(b)(3) and (b)(4). Petitioner consents to electronic service.

Lead Counsel	Back-Up Counsel
Paul R. Hart (Reg. No. 59,646) Paul.Hart@eriseip.com	Adam P. Seitz (Reg. No. 52,206) adam.seitz@eriseip.com PTAB@eriseip.com
<u>Postal and Hand-Delivery Address:</u> ERISE IP, P.A. 5299 DTC Blvd., Ste. 1340 Greenwood Village, Colorado 80111 Telephone: (913) 777-5600 Fax: (913) 777-5601	Kevin Rongish (Reg. No. 78,716) kevin.rongish@eriseip.com PTAB@eriseip.com <u>Postal and Hand-Delivery Address:</u> ERISE IP, P.A. 7015 College Blvd., Suite 700 Overland Park, Kansas 66211 Telephone: (913) 777-5600 Fax: (913) 777-5601

CLAIMS LISTING APPENDIX

U.S. Patent No. 9,008,483 for Claims 1-2 and 10-13

Claim Designation	Claim Language
Claim 1(Pre)	A drop interface box configured to be mounted to a structure and to receive a drop cable from an optical fiber service provider distribution point and a plurality of distribution cables which distribute the optical fiber service, the drop interface box comprising:
Claim 1(a)	a base unit having a drop cable entrance configured to receive the drop cable and having drop cable retaining mechanisms spaced apart and configured to retain a length of drop cable looped around the drop cable retaining mechanisms;
Claim 1(b)	a cover having a hinged connection to the base unit to selectively enclose a storage area provided in the base unit; and
Claim 1(c)	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 such that the fiber storage panel is moveable relative to the base unit and configured to be stored between the base unit and the cover,
Claim 1(d)	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 2	The drop interface box of claim 1, 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.
Claim 10	The drop interface box of claim 1, wherein the drop cable retaining mechanisms in the base unit comprise storage clips positioned on opposing sides of the base unit.
Claim 11	The drop interface box of claim 1, wherein the drop cable entrance further comprises slots formed in the base unit and configured to receive a cable clip which clips over the drop cable, the slots and the cable clip forming a substantially weather tight seal with the base unit.

Claim Designation	Claim Language
Claim 12	The drop interface box of claim 11, and further comprising a strain-relief clamp coupled to the base unit proximate the drop cable entrance.
Claim 13	The drop interface box of claim 1, and further comprising a security mechanism for securing the cover to the base unit in a closed position.

APPENDIX OF EXHIBITS

Exhibit 1001	U.S. Patent No. 9,008,483 (“’483 Patent”)
Exhibit 1002	Prosecution History for the ’483 Patent (“’483 FH”)
Exhibit 1003	Declaration of Dr. Sayfe Kiaei (“Dec”)
Exhibit 1004	U.S. Patent Application Publication No. 2009/0202214 to Holmberg et al. (“Holmberg”)
Exhibit 1005	U.S. Patent Application Publication No. 2008/0112681 to Battey et al. (“Battey”)
Exhibit 1006	U.S. Patent No. 6,721,484 to Blankenship et al. (“Blankenship”)
Exhibit 1007	U.S. Patent No. 8,965,168 to Cowen et al. (“Cowen”)
Exhibit 1008	U.S. Patent No. 7,346,253 to Bloodworth et al. (“Bloodworth”)
Exhibit 1009	U.S. Patent No. 7,539,388 to Mertesdorf et al. (“Mertesdorf”)
Exhibit 1010	U.S. Patent Application Publication No. 2005/0276562 to Battey et al. (“Battey ’562”)
Exhibit 1011	U.S. Patent No. 8,121,458 to Barth et al. (“Barth”)
Exhibit 1012	U.S. Patent No. 8,009,954 to Bran de Leon et al. (“Bran de Leon”)
Exhibit 1013	U.S. Patent No. 4,792,203 to Nelson et al. (“Nelson”)
Exhibit 1014	International Publication No. WO 2010/040256 to Castonguay et al. (“Castonguay”)
Exhibit 1015	U.S. Patent No. 7,088,893 to Cooke et al. (“Cooke”)
Exhibit 1016	PPC’s Preliminary Infringement Contentions (“PPC Infringement Contentions”)
Exhibit 1017	PPC v. Times Fiber (D. Del.), Dkt. 43, Stipulation to Stay Litigation (“Stipulation”)
Exhibit 1018	“Trending at the PTAB: When to Ask Court for Litigation Stay,” March 30, 2023 (“Stay Article”)
Exhibit 1019	PPC v. Charles (D. Del.), Dkt. 22 (“Scheduling Order”)
Exhibit 1020	June 2023 District Court Time to Trial Statistics (“Trial Stats”)

CERTIFICATION OF WORD COUNT

The undersigned certifies pursuant to 37 C.F.R. § 42.24 that the foregoing Petition for *Inter Partes* Review, excluding any table of contents, mandatory notices under 37 C.F.R. § 42.8, certificates of service or word count, or appendix of exhibits, contains 13,936 words according to the word-processing program used to prepare this document (Microsoft Word).

Dated: September 13, 2023

BY: /s Paul R. Hart/
Paul R. Hart, Reg. No. 59,646
COUNSEL FOR PETITIONER

**CERTIFICATE OF SERVICE ON PATENT OWNER
UNDER 37 C.F.R. § 42.105**

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105, the undersigned certifies that on September 13, 2023, a complete and entire copy of this Petition for *Inter Partes* Review including exhibits was provided via Federal Express to the Patent Owner by serving the correspondence address of record for the '483 Patent as listed on Patent Center:

WESTMAN CHAMPLIN & KOEHLER, P.A.
121 South Eighth Street
Suite 1100
Minneapolis, MN 55402

Further, a courtesy copy of this Petition for *Inter Partes* Review was sent via email to Patent Owner's litigation counsel:

Alexis Stombaugh astombaugh@ycst.com
Douglas J. Nash dnash@barclaydamon.com
Genevieve M. Halpenny ghalpenny@barclaydamon.com
John D. Cook jcook@barclaydamon.com
Naresh K. Kannan nkannan@barclaydamon.com
Pilar Gabrielle Kraman pkraman@ycst.com
Robert M. Vrana rvrana@ycst.com

BY: /s Paul R. Hart/
Paul R. Hart, Reg. No. 59,646

COUNSEL FOR PETITIONER