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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Election/Restrictions

Applicant's election without traverse of claims 1-20, 22-54, 56-108, and 110-117 in the reply filed on 8/5/24 is acknowledged.

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 6/2/23 and 2/27/24 were filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Interpretation

The following is a quotation of 35 U.S.C. 112(f):

(f) Element in Claim for a Combination. – An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The following is a quotation of pre-AIA 35 U.S.C. 112, sixth paragraph:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

This application includes one or more claim limitations that use the word “means” or “step” but are nonetheless not being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph because the claim limitation(s) recite(s) sufficient structure, materials, or acts to entirely perform the recited function. Such claim limitation(s) is/are:

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“tray means” and “modular fiber optic cassette means” in claims 1-2, 8-20, 22, 24-26, 41-44, 48, 49, 52-54, 56-59, 61-63, 65-67, 70, 73, 88, 90, 96-98, 102-103, 106-108, 110-113.

Because this/these claim limitation(s) is/are **not** being interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, it/they is/are **not** being interpreted to cover only the corresponding structure, material, or acts described in the specification as performing the claimed function, and equivalents thereof.

If applicant intends to have this/these limitation(s) interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, applicant may: (1) amend the claim limitation(s) to remove the structure, materials, or acts that performs the claimed function; or (2) present a sufficient showing that the claim limitation(s) does/do not recite sufficient structure, materials, or acts to perform the claimed function.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-20 and 22 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor (or for applications subject to pre-AIA 35 U.S.C. 112, the applicant), regards as the invention.

Claims 16-20 and 22 each recite “The tray of claim Error! Reference source not found,” rendering the claims unclear. For purposes of examination, the limitation in question is replaced with the phrase “The tray of claim 1.”

Claim Rejections - 35 USC § 102

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis (i.e., changing from AIA to pre-AIA) for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

Claim(s) 1-20, 24-54, 58-108, and 112-117 is/are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Fukui et al. (US 10,101,551 B2).

Re. Claim 1, Fukui et al. discloses a tray 30 for providing a plurality of different modular fiber optic cassette configurations in a standard U-space fiber management system (Fig. 9; col. 8 lines 16-32; col. 9 lines 30-35) comprising:

a tray means 30e having a first tray side end portion and a second tray side end portion defining a tray width portion of a standard U-space fiber management system, the tray width portion extending between the first tray side end portion and the second tray side end portion (Fig. 9; col. 8 lines 17-19 and 45-48);

wherein the tray width portion is configured to fit a standard U-space width dimension (col. 9 lines 30-35);

wherein the tray means is for fitting a plurality of different modular fiber optic cassettes configurations in the tray width portion of the standard U-space fiber management system (Figs. 6-9; col. 8 lines 17-19 and 45-48; col. 9 lines 30-35);

wherein each of the plurality of different modular fiber optic cassettes configurations include a modular fiber optic cassette means for supporting a receptacle module having a first module side end portion and a second module side end portion defining a module width portion (e.g., “module width portion” is measured along the x-direction of the cassette as seen in Figs. 1-5) extending between the first tray end portion and the second tray end portion (e.g., coupling multiple cassettes 10 creates larger cassettes 20; Figs. 1-5; col. 7 lines 61-67; col. 8 lines 1-3);

wherein the module width portion is configured to fit in a standard one width (1W) unit (Figs. 1-2; col. 5 lines 24-27);

wherein the modular fiber optic cassette means includes a first cassette side end portion and a second cassette side end portion defining a standard cassette width unit extending between the first cassette side end portion and the second cassette side end portion that comprises a standard two width (2W) unit 20 (Fig. 5; col. 7 lines 23-33), a standard three width (3W) unit (e.g., 36 cores with three integral units 10 each having three tiers; col. 7 line 67; col. 8 lines 1-6), a standard four width (4W) unit (e.g., 48 cores with three integral units 10 each having three tiers; col. 7 line 67; col. 8 lines 1-6) or a standard six width (6W) unit relative to the standard one width (1W) (e.g., tray member 10e is configured to receive up to twelve 1W units 10, resulting in inherent cassette

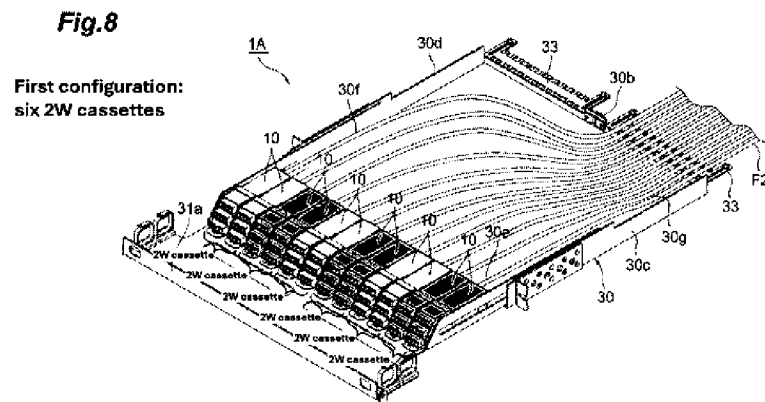
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width units up to and including 12W, for example a 12W unit results when all of the units 10 across the tray are integrally formed; the prior art inherently discloses 6W units);

wherein the receptable module is configured to fit at least four fiber optic plug receiving receptacle portions 13 in the standard one width (1W) unit (Fig. 1; col. 5 lines 24-27);

wherein the plurality of different modular fiber optic cassette configurations that comprise:

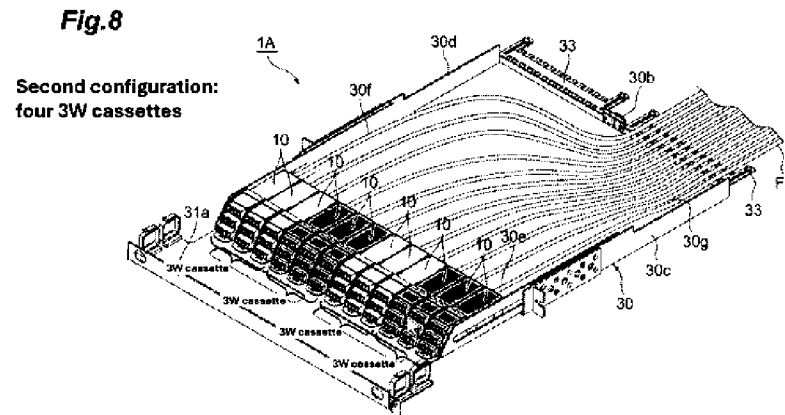
a first modular fiber optic cassette configuration that includes six modular 2W cassettes that are each arranged side-by-side of each other along the tray member such that a cassette side end portion of each cassette of the first modular fiber optic cassette configuration adjacently faces a cassette side end portion of another modular cassette of the first modular fiber optic cassette configuration;



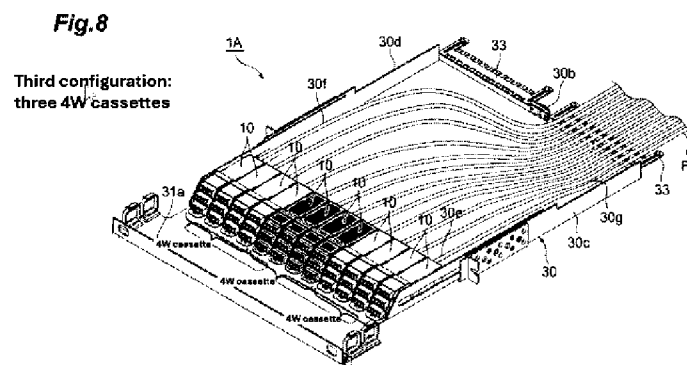
a second modular fiber optic cassette configuration that includes four modular 3W cassettes that are each arranged side-by-side of each other along the tray member such that a cassette side end portion of each cassette of the second modular fiber optic cassette configuration adjacently faces a cassette

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side end portion of another modular cassette of the second modular fiber optic cassette configuration;

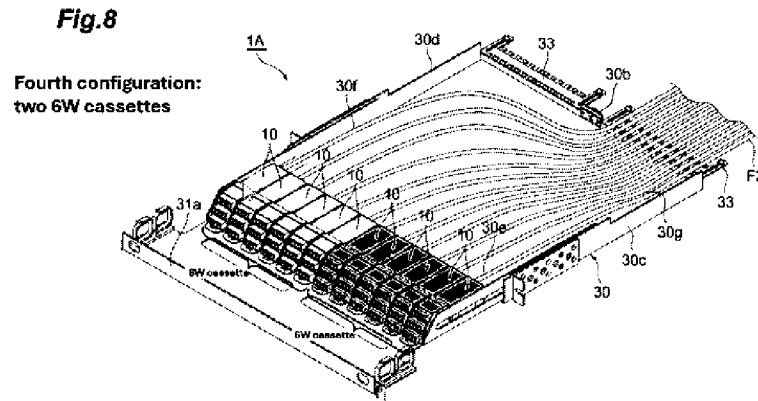


a third modular fiber optic cassette configuration that includes three modular 4W cassettes that are each arranged side-by-side of each other along the tray member such that a cassette side end portion of each cassette of the third modular fiber optic cassette configuration adjacently faces a cassette side end portion of another modular cassette of the third modular fiber optic cassette configuration;



a fourth modular fiber optic cassette configuration that includes two modular 6W cassettes that are each arranged side-by-side of each other along the tray member such that a cassette side end portion of each cassette of the fourth modular fiber optic cassette configuration adjacently faces a cassette side

end portion of another modular cassette of the fourth modular fiber optic cassette configuration;



wherein each modular 2W standard width (2W) cassette is configured to fit two receptacle modules 10 (Figs. 1 and 5; col. 7 lines 23-33);

wherein each modular 3W standard width cassette is configured to fit three receptacle modules 10 (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3);

wherein modular 4W standard width cassette is configured to fit four receptacle modules 10 (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3);

wherein each modular 6W standard width cassette is configured to fit six receptacle modules 10 (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3);

wherein the tray means 30e is configured to be removeably secured to the modular fiber optic cassette means when they tray fits the plurality of different modular fiber optic cassette configurations within the tray width portion in the standard U-space system (Fig. 9; col. 8 lines 52-64; col. 9 lines 30-35).

wherein the tray means 30e includes a plurality of cassette engaging tray portions 33b that are configured to conform to the standard one width 1W so as to support the modular two standard width (2W) cassette, the modular three standard

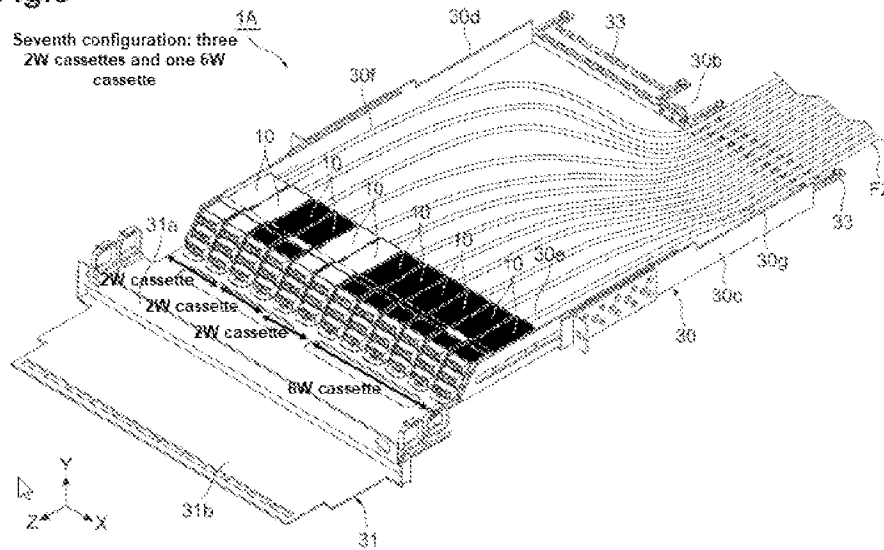
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width (3W) cassette, the modular fourth standard width (4W) cassette, and the modular six standard width (6W) cassette (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 2, Fukui et al. discloses the tray means comprises a tray member 30e configured to fit a plurality of modular fiber optic cassettes when the plurality of modular fiber optic cassettes are arranged side-by-side along the tray member 30e in a standard U-space fiber management system (Figs. 6-9; col. 8 lines 17-19 and 45-48; col. 9 lines 30-35).

Re. Claim 3, Fukui et al. discloses the plurality of different modular fiber optic cassette configurations comprise a fifth modular fiber optic cassette configuration that includes three modular 2W standard width unit size cassettes, which are each arranged side-by-side of each other in a row along the tray such that a cassette side end portion of one of the three modular 2W standard width size cassettes adjacently faces a cassette side end portion of one of the other modular 2W standard width size cassette, and one modular 6W standard width unit size cassette that is arranged side-by-side in a row along the tray member with one of the three modular 2W standard width unit size cassettes, such that a cassette side end portion of the one modular 6W standard width unit size cassette adjacently faces a cassette side end portion of one of the other three modular 2W standard width unit size cassettes.

Seventh configuration: three 2W cassettes and one 6W cassette



Re. Claim 5, Fukui et al. discloses the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit four optical fiber connectors (e.g., “1W” is based on LC quad technology footprint, and thus “based on a standard SC Duplex width unit,” since by industry standards the footprint of four (quad) LC connectors is designed to fit the footprint of dual SC connectors; col. 5 lines 24-36).

Re. Claim 6, Fukui et al. discloses the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit a plurality of different type of LC, SC, and MPO connectors (e.g., “1W” is based on LC quad technology footprint, and thus “based on a standard SC Duplex width unit,” since by industry standards the

footprint of four (quad) LC connectors is designed to fit the footprint of dual SC connectors; col. 5 lines 24-36).

Re. Claim 7, Fukui et al. discloses the plurality of cassette engaging portions 33b of the tray 30 are spaced apart from one another so as to conform to the standard one width (1W) and support the modular two standard width (2W) cassette, the modular three standard width (3W) cassette, the modular four standard width (4W) cassette, and the modular six standard width (6W) cassette (Fig. 9; col. 8 lines 52-56).

Re. Claim 8, Fukui et al. discloses the tray means 10e includes a cassette engaging shoulder (e.g., inside edge of hole 33a) that is configured to fit a channel portion (e.g., channel formed by hook 11i) of the modular cassette means (Figs. 2 and 9; col. 8 lines 52-56)

Re. Claim 9, Fukui et al. discloses the cassette engaging shoulder (e.g., inside edge of hole 33a) is located adjacent to a front end portion of the tray means 10e such that the tray means 10e is configured to support the modular cassette means at a front location of the tray means 10e (Fig. 9).

Re. Claim 10, Fukui et al. discloses the tray means 30e is configured to slidably received in at least a portion of a tray receiving space of a case 30g/30c/30d of a fiber management system (Fig. 9; col. 8 lines 57-64).

Re. Claim 11, Fukui et al. discloses the modular fiber optic cassette means comprises a plurality of modular fiber optic cassette means that include a cassette side end portion 11a that is directly adjacent (e.g., lacking intervening structure) to a cassette side end portion 11a of another module fiber optic cassette means when each of the plurality of modular fiber optic cassettes means are in the plurality of the plurality of

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different modular fiber optic cassette configurations (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 12, Fukui et al. discloses the modular fiber optic cassette means comprises a plurality of modular fiber optic cassette means that include a cassette side end portion 11a of one modular fiber optic cassette means that is adjacent to a cassette side end portion 11a of another module fiber optic cassette when each of the plurality of modular fiber optic cassette means are in the plurality of the plurality of different modular fiber optic cassette configurations (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 13, Fukui et al. discloses the modular fiber optic cassette means comprises a plurality of modular fiber optic cassette means that include a cassette side end portion 11a of one modular fiber optic cassette means that touches a cassette side end portion 11a of another module fiber optic cassette when each of the modular fiber optic cassettes means are in the plurality of the plurality of different modular fiber optic cassette configurations (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 14, Fukui et al. discloses the tray means has a tray width that is configured to receive at least twelve standard one width (1W) units side by side along a row (Figs 6-9).

Re. Claim 15, Fukui et al. discloses the tray means including first tray end portion, a second tray end portion spaced away from the first tray end portion so as to define a tray width extending between the first tray end portion and the second tray end portion, and wherein the tray width is configured to fit at least twelve standard one width (1W) units side by side along the tray means (Figs 6-9).

Re. Claim 16, Fukui et al. discloses the modular fiber optic cassette means comprise a multi-fiber connector receiving receptacle portion 12 arranged on a rear portion thereof and a plurality of optic fibers, one of the optic fibers being configured to interconnect a respective one of the optic plug receiving receptacle portions 12 with the multi-fiber connector receiving receptacle portion 13 (Fig. 4; col. 6 lines 33-48).

Re. Claim 17, Fukui et al. discloses the modular fiber optic cassette means comprises four fiber optic plug receiving receptacle portions 13 configured to be arranged side by side in a row along a front portion thereof for each standard width (1W) unit (Fig. 1; col. 5 lines 24-27).

Re. Claim 18, Fukui et al. discloses the tray means 10e is configured to be mounted in a rack (col. 9 lines 30-34).

Re. Claim 19, Fukui et al. discloses the tray means 10e is configured to be mounted in a standard U-space rack (col. 9 lines 30-34).

Re. Claim 20, Fukui et al. discloses the tray means 10e comprises a cassette fastening tray portion 33a that is configured to removably secure the tray 10e to the modular cassette means (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 24, Fukui et al. discloses the tray means 10e includes a plurality of cassette engaging tray portions 33a that are each configured to engage a tray engaging cassette portion 11i of each modular fiber optic cassette 10 (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 25, Fukui et al. discloses a tray 30 for providing a plurality of different modular fiber optic cassette configurations (Fig. 9; col. 8 lines 16-32; col. 9 lines 30-35) comprising:

a tray means 30e for fitting a plurality of different modular fiber optic cassette configurations in a standard U-space fiber management system (Figs. 6-9; col. 8 lines 17-19 and 45-48; col. 9 lines 30-35);

wherein each of the plurality of different sizes of modular fiber optic cassette configurations include a plurality of different sizes of modular fiber optic cassettes (1W, 2W, etc.);

wherein each of the plurality of different sizes of modular fiber optic cassettes is configured to support a fiber optic receptacle module 10 that is configured to fit in a standard one width (1W) unit (Figs. 1-2; col. 5 lines 24-27);

wherein the plurality of different sizes of modular fiber optic cassettes includes a standard two width (2W) cassette 20 that is configured to fit a standard two width (2W) unit relative to the standard one width (1W) unit (Fig. 5; col. 7 lines 23-33), a standard three width (3W) cassette that is configured to fit a standard three width (3W) unit relative to the standard one width (1W) unit (e.g., 36 cores with three integral units 10 each having three tiers; col. 7 line 67; col. 8 lines 1-6), a standard four width (4W) cassette that is configured to fit a standard four width (4W) unit relative to the standard one width (1W) unit (e.g., 48 cores with three integral units 10 each having three tiers; col. 7 line 67; col. 8 lines 1-6), and a standard six width (6W) cassette that is configured to fit a standard six width (6W) unit relative to the standard one width (1W) unit;

wherein the plurality of different modular fiber optic cassette configurations that comprise:

a first modular fiber optic cassette configuration that includes six modular 2W cassettes that are each arranged side-by-side of each other along the tray

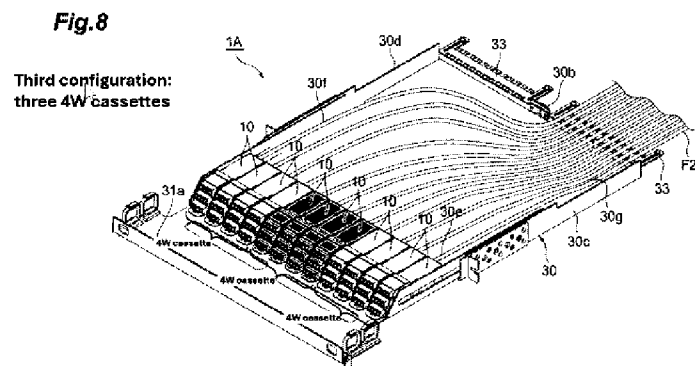
Fig.8

Fig.8

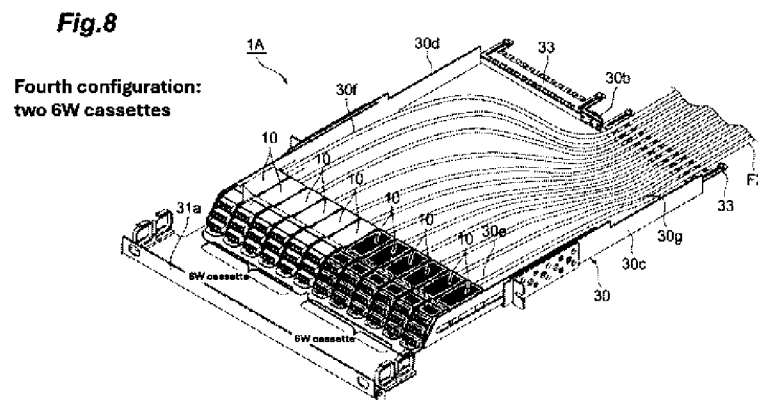
Configuration:
cassettes

This diagram shows a perspective view of a cassette tape assembly. It features a main housing or frame (30) containing several individual cassette tape units (10). Each unit is labeled "3W cassette". The units are arranged in a row, with their reels visible through transparent windows (30f). Various components are labeled with reference numerals: 1A points to the top edge; 30d, 30e, 30g, and 30c indicate different sections of the frame; 30b and 30a point to specific internal components; 31a points to a small component at the front; and F indicates a force or direction at the right end.

a third modular fiber optic cassette configuration that includes three modular 4W cassettes that are each arranged side-by-side of each other along the tray member such that a cassette side end portion of each cassette of the third modular fiber optic cassette configuration adjacently faces a cassette side end portion of another modular cassette of the third modular fiber optic cassette configuration;



a fourth modular fiber optic cassette configuration that includes two modular 6W cassettes that are each arranged side-by-side of each other along the tray member such that a cassette side end portion of each cassette of the fourth modular fiber optic cassette configuration adjacently faces a cassette side end portion of another modular cassette of the fourth modular fiber optic cassette configuration;



wherein the tray means 30e is configured to be removeably secured to the modular fiber optic cassette means when they tray fits the plurality of different modular fiber optic cassette configurations within the tray width portion in the standard U-space system (Fig. 9; col. 8 lines 52-64; col. 9 lines 30-35).

wherein the tray means 30e includes a plurality of cassette engaging tray portions 33b that are configured to conform to the standard one width 1W so as to support the modular two standard width (2W) cassette, the modular three standard width (3W) cassette, the modular fourth standard width (4W) cassette, and the modular six standard width (6W) cassette (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 26, Fukui et al. discloses the tray means includes a first tray side end portion and a second tray side end portion defining a tray width portion extending between the first tray side end portion and the second tray side end portion, and where the tray width portion is configured to fit in a standard U-space width dimension (Figs. 6-9; col. 9 lines 30-34).

Re. Claim 27, Fukui et al. discloses the fiber optic receptable module 10 includes a first module side end portion and a second module side end portion defining a module width portion extending between the first try end portion and second tray end portion, and the module width portion is configured to fit in the standard one width (1 W) unit (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 28, Fukui et al. discloses the modular 2W standard width unit size cassette includes a first 2W cassette side end portion 11d and a second 2W cassette side end portion 11c configured to define a 2W standard cassette width unit that

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extends between the first 2W cassette side end portion 11d and the second 2W cassette side end portion 11c that is configured to fit the standard two width (2W) unit (Fig. 5; col. 7 lines 23-33).

Re. Claim 29, Fukui et al. discloses the modular 3W standard width unit size cassette includes a first 3W cassette side end portion and a second 3W cassette side end portion defining a 3W standard cassette width unit extending between the first 3W cassette side end portion and the second 3W cassette side end portion that is configured to fit the standard three width (3W) unit (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 30, Fukui et al. discloses the modular 4W standard width unit size cassette includes a first 4W cassette side end portion and a second 4W cassette side end portion defining a 4W standard cassette width unit extending between the first 4W cassette side end portion and the second 4W cassette side end portion that is configured to fit the standard four width (4W) unit (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 31, Fukui et al. discloses the modular 6W standard width unit size cassette includes a first 6W cassette side end portion and a second 6W cassette side end portion defining a 6W standard cassette width unit extending between the first 6W cassette side end portion and the second 6W cassette side end portion that is configured to fit the standard six width (6W) unit (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 32, Fukui et al. discloses the modular 2W standard width unit size cassette is configured to fit two receptacle modules 10 (Figs. 1 and 5; col. 7 lines 23-33).

Re. Claim 33, Fukui et al. discloses the modular 3W standard width unit size cassette is configured to fit three receptacle modules 10 (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 34, Fukui et al. discloses the modular 4W standard width unit size cassette is configured to fit four receptacle modules 10 (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 35, Fukui et al. discloses modular 6W standard width unit size cassette is configured to fit six receptacle modules 10 (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 36, Fukui et al. discloses the fiber optic receptacle module 10 is configured to fit at least four fiber optic plug receiving receptacle portions 13 (Fig. 1; col. 5 lines 24-27).

Re. Claim 37, Fukui et al. discloses the fiber optic receptacle module that is configured to fit at least four fiber optic plug receiving receptacle portions 13 in the standard one width (1W) unit (Fig. 1; col. 5 lines 24-27).

Re. Claim 38, Fukui et al. discloses the standard one width (1W) unit is based on a standard LC Quad width unit that is configured to fit four optical fiber connectors (e.g., “1W” is based on LC quad technology footprint, and thus “based on a standard SC Duplex width unit,” since by industry standards the footprint of four (quad) LC connectors is designed to fit the footprint of dual SC connectors; col. 5 lines 24-36).

Re. Claim 39, Fukui et al. discloses the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit four optical fiber connectors (e.g., “1W” is based on LC quad technology footprint, and thus “based on a standard SC Duplex width unit,” since by industry standards the footprint of four (quad) LC connectors is designed to fit the footprint of dual SC connectors; col. 5 lines 24-36).

Re. Claim 40, Fukui et al. discloses the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit a plurality of different type of LC, SC, and MPO connectors (e.g., “1W” is based on LC quad technology footprint, and thus “based on a standard SC Duplex width unit,” since by industry standards the footprint of four (quad) LC connectors is designed to fit the footprint of dual SC connectors; col. 5 lines 24-36).

Re. Claim 41, Fukui et al. discloses the plurality of cassette engaging portions 33b of the tray means 30e are spaced apart from one another so as to conform to the standard one width (1W) and support the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette (Fig. 9; col. 8 lines 52-56).

Re. Claim 42, Fukui et al. discloses the tray means 10e includes a cassette engaging shoulder (e.g., inside edge of hole 33a) that is configured to fit a channel portion (e.g., channel formed by hook 11i) of each of the plurality of modular fiber optic cassettes (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 43, Fukui et al. discloses the cassette engaging shoulder (e.g., inside edge of hole 33a) is located adjacent to a front end portion of the tray means 10e such

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that the tray member 10e is configured to support each of the modular fiber optic cassettes at a front location of the tray (Fig. 9).

Re. Claim 44, Fukui et al. discloses the tray means 30e is configured to slidably received in at least a portion of a tray receiving space of a case 30g/30c/30d of a fiber management system (Fig. 9; col. 8 lines 57-64).

Re. Claim 45, Fukui et al. discloses each of the modular fiber optic cassettes include a cassette side end portion 11a that is directly adjacent (e.g., lacking intervening structure) to a cassette side end portion 11a of another module fiber optic cassette when the modular fiber optic cassettes means are in the plurality of the plurality of different modular fiber optic cassette configurations (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 46, Fukui et al. discloses each of the modular fiber optic cassettes include a cassette side end portion 11a of one modular fiber optic cassette that is adjacent to a cassette side end portion 11a of another module fiber optic cassette when each of the plurality of modular fiber optic cassettes are in the plurality of the plurality of different modular fiber optic cassette configurations (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 47, Fukui et al. discloses each of the modular fiber optic cassettes include a cassette side end portion 11a of one modular fiber optic cassette that is configured to touch a cassette side end portion 11a of another module fiber optic cassette when each of the modular fiber optic cassettes are in the plurality of the plurality of different modular fiber optic cassette configurations (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 48, Fukui et al. discloses the tray means has a tray width that is configured to receive at least twelve standard one width (1W) units side by side along a row (Figs 6-9).

Re. Claim 49, Fukui et al. discloses the tray means has a first tray end portion, a second tray end portion that is spaced away from the first tray end portion so as to define a tray width extending between the first tray end portion and the second tray end portion, and wherein the tray width is configured to support at least twelve standard one width (1W) units side by side along the tray means (Figs 6-9).

Re. Claim 50, Fukui et al. discloses each modular fiber optic cassette comprises a multi-fiber connector receiving receptacle portion 12 arranged on a rear portion thereof and a plurality of optic fibers, one of the optic fibers being configured to interconnect a respective one of the optic plug receiving receptacle portions 12 with the multi-fiber connector receiving receptacle portion 13 (Fig. 4; col. 6 lines 33-48).

Re. Claim 51, Fukui et al. discloses each modular fiber optic cassette comprises four fiber optic plug receiving receptacle portions 13 configured to be arranged side by side in a row along a front portion thereof for each standard width (1W) unit (Fig. 1; col. 5 lines 24-27).

Re. Claim 52, Fukui et al. discloses the tray means 10e is configured to be mounted in a rack (col. 9 lines 30-34).

Re. Claim 53, Fukui et al. discloses the tray means 10e is configured to be mounted in a standard U-space rack (col. 9 lines 30-34).

Re. Claim 54, Fukui et al. discloses the tray means 10e comprises a cassette fastening tray portion 33a that is configured to removably secure the tray 10e to the modular cassette means (Figs. 2 and 9; col. 8 lines 52-56).

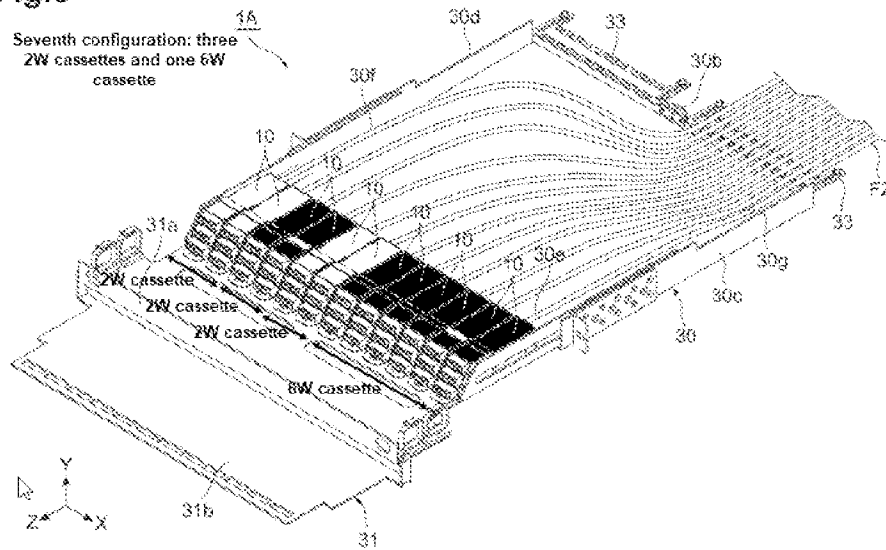
Re. Claim 58, Fukui et al. discloses the tray means 30e includes a plurality of cassette engaging tray portions 33b that are each configured to engage a tray engaging cassette portion 11j of each modular fiber optic cassette (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 59, Fukui et al. discloses the tray means comprises a tray member 30e configured to fit in the standard U-space and support the plurality of different modular fiber optic cassettes configurations in the standard U-space (Figs. 6-9; col. 8 lines 17-19 and 45-48; col. 9 lines 30-35).

Re. Claim 60, Fukui et al. discloses the plurality of different modular fiber optic cassette configurations comprise a fifth modular fiber optic cassette configuration that includes three modular 2W standard width unit size cassettes, which are each arranged side-by-side of each other in a row along the tray such that a cassette side end portion of one of the three modular 2W standard width size cassettes adjacently faces a cassette side end portion of one of the other modular 2W standard width size cassette, and one modular 6W standard width unit size cassette that is arranged side-by-side in a row along the tray member with one of the three modular 2W standard width unit size cassettes, such that a cassette side end portion of the one modular 6W standard width unit size cassette adjacently faces a cassette side end portion of one of the other three modular 2W standard width unit size cassettes.

Fig.8

Seventh configuration: three
2W cassettes and one 6W
cassette



Re. Claim 61, Fukui et al. discloses a tray 30 for providing a plurality of different modular fiber optic cassette configurations in a standard U-space (Fig. 9; col. 8 lines 16-32; col. 9 lines 30-35) comprising:

a tray means 30e for supporting a plurality of different modular fiber optic cassette configurations (Figs. 6-9; col. 8 lines 17-19 and 45-48; col. 9 lines 30-35);

wherein each of the plurality of different sizes of modular fiber optic cassette configurations include different sizes of modular fiber optic cassettes (1W, 2W, etc.);

wherein each of the different sizes of modular fiber optic cassettes is configured to support a fiber optic receptacle module 10 that is configured to fit in a standard one width (1W) unit (Figs. 1-2; col. 5 lines 24-27);

wherein the plurality of different sizes of modular fiber optic cassettes includes a standard two width (2W) cassette 20 that is configured to fit a standard two width (2W) unit relative to the standard one width (1W) unit (Fig. 5; col. 7 lines 23-33), a standard three width (3W) cassette that is configured to fit a standard three width (3W) unit

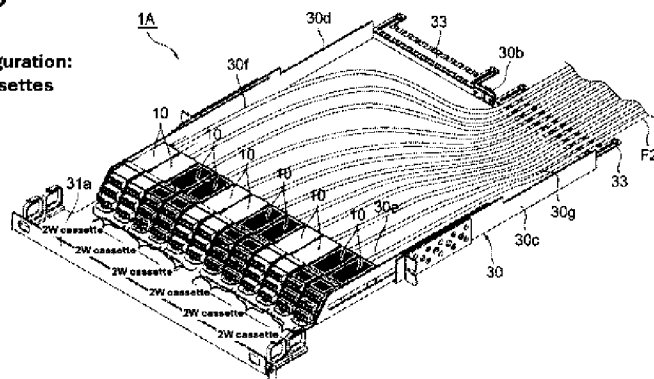
relative to the standard one width (1W) unit (e.g., 36 cores with three integral units 10 each having three tiers; col. 7 line 67; col. 8 lines 1-6), a standard four width (4W) cassette that is configured to fit a standard four width (4W) unit relative to the standard one width (1W) unit (e.g., 48 cores with three integral units 10 each having three tiers; col. 7 line 67; col. 8 lines 1-6), and a standard six width (6W) cassette that is configured to fit a standard six width (6W) unit relative to the standard one width (1W) unit;

wherein the plurality of different modular fiber optic cassette configurations that comprise:

a first modular fiber optic cassette configuration that includes six modular 2W cassettes that are each arranged side-by-side of each other along the tray means such that a cassette side end portion of each cassette of the first modular fiber optic cassette configuration adjacently faces a cassette side end portion of another modular cassette of the first modular fiber optic cassette configuration;

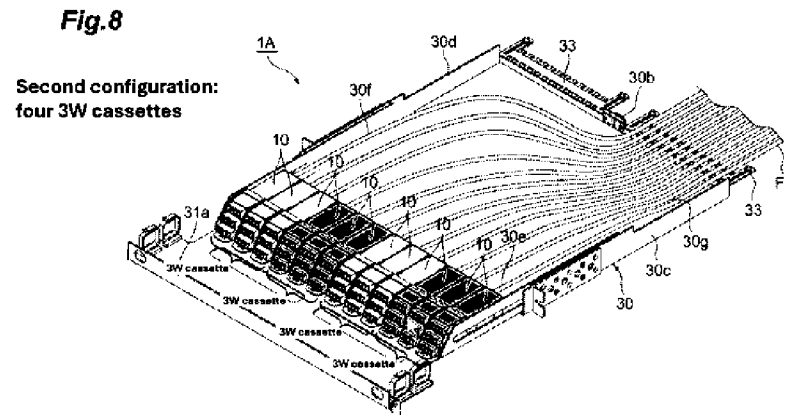
Fig.8

**First configuration:
six 2W cassettes**

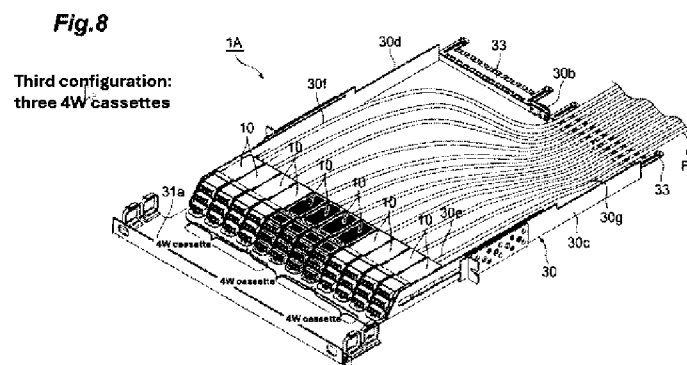


a second modular fiber optic cassette configuration that includes four modular 3W cassettes that are each arranged side-by-side of each other along the tray means such that a cassette side end portion of each cassette of the second modular fiber optic cassette configuration adjacently faces a cassette

side end portion of another modular cassette of the second modular fiber optic cassette configuration;

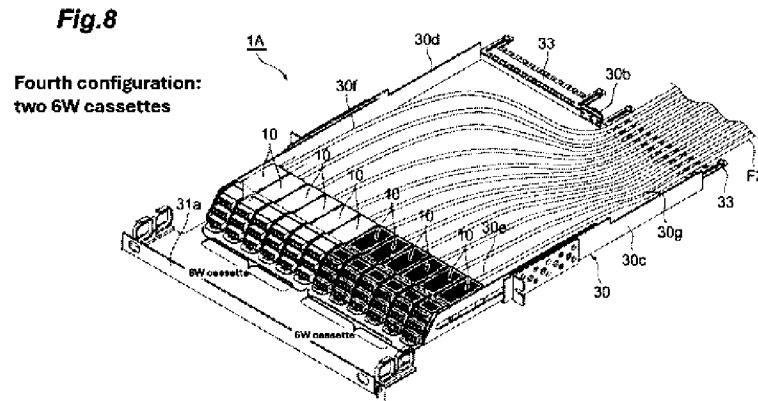


a third modular fiber optic cassette configuration that includes three modular 4W cassettes that are each arranged side-by-side of each other along the tray means such that a cassette side end portion of each cassette of the third modular fiber optic cassette configuration adjacently faces a cassette side end portion of another modular cassette of the third modular fiber optic cassette configuration;



a fourth modular fiber optic cassette configuration that includes two modular 6W cassettes that are each arranged side-by-side of each other along the tray means such that a cassette side end portion of each cassette of the fourth modular fiber optic cassette configuration adjacently faces a cassette side

end portion of another modular cassette of the fourth modular fiber optic cassette configuration;



wherein the tray means 30e is configured to be removeably secured to the modular fiber optic cassette means when they tray fits the plurality of different modular fiber optic cassette configurations within the tray width portion in the standard U-space system (Fig. 9; col. 8 lines 52-64; col. 9 lines 30-35).

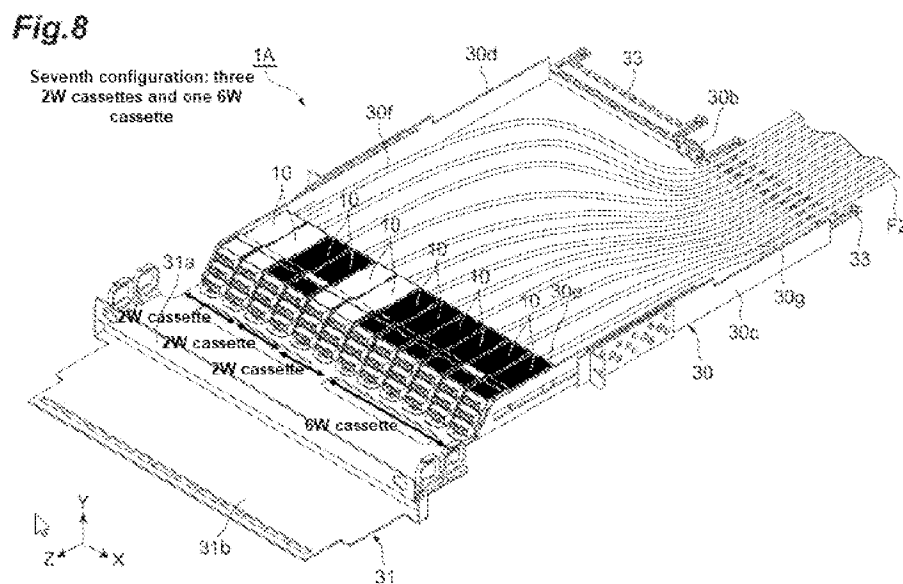
wherein the tray means 30e is configured to conform to the standard one width 1W so as to support the modular two standard width (2W) cassette, the modular three standard width (3W) cassette, the modular four standard width (4W) cassette, and the modular six standard width (6W) cassette (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 62, Fukui et al. discloses the tray means 10e is configured to be mounted in a standard U-space width (col. 9 lines 30-35).

Re. Claim 63, Fukui et al. discloses the tray means 10e comprises a tray member that is configured to fit a plurality of different modular fiber optic cassette configurations in a standard U-space width (Figs. 6-9; col. 8 lines 17-19 and 45-48; col. 9 lines 30-35).

Re. Claim 64, Fukui et al. discloses each of the plurality of different modular fiber optic cassette configurations include a plurality of different sizes (e.g., 1W, 2W, etc.) of modular fiber optic cassettes (Figs. 6-9; col. 8 lines 17-19 and 45-48; col. 9 lines 30-35).

Re. Claim 65, Fukui et al. discloses the plurality of different modular fiber optic cassette configurations comprise a fifth modular fiber optic cassette configuration that includes three modular 2W standard width unit size cassettes, which are each arranged side-by-side of each other in a row along the tray means such that a cassette side end portion of one of the three modular 2W standard width size cassettes adjacently faces a cassette side end portion of one of the other modular 2W standard width size cassette, and one modular 6W standard width unit size cassette that is arranged side-by-side in a row along the tray means with one of the three modular 2W standard width unit size cassettes, such that a cassette side end portion of the one modular 6W standard width unit size cassette adjacently faces a cassette side end portion of one of the other three modular 2W standard width unit size cassettes.



Re. Claim 66, Fukui et al. discloses the tray means comprises a tray member 30e that is configured to be removeably secured to each modular fiber optic cassette when the tray member supports the plurality of different modular fiber optic cassettes configurations within a tray member width portion in the standard U-space fiber management system (Figs. 6-9; col. 8 lines 17-19 and 45-48; col. 9 lines 30-35).

Re. Claim 67, Fukui et al. discloses the tray means 30e includes a plurality of selectively cassette engaging tray portions 33b that are configured to conform to the standard one width 1W so as to support the modular two standard width (2W) cassette, the modular three standard width (3W) cassette, the modular fourth standard width (4W) cassette, and the modular six standard width (6W) cassette (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 68, Fukui et al. discloses the plurality of selectively engaging cassette engaging portions comprises a plurality of slot portions 33b that are each configured to releasably engage with a tab portion 11j of the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 69, Fukui et al. discloses the plurality of slot portions 33b include at least two slot portions that are configured to releaseably engage with at least two corresponding tab portions 11j of each of the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette (e.g., 2W

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cassette will comprises two tab portions 11j; 3W cassette will comprise three tab portions 11j, etc.; Figs. 2, 5, and 9; col. 8 lines 52-56).

Re. Claim 70, Fukui et al. discloses the tray means includes a plurality of selectively engaging cassette engaging portions 33b that are spaced apart from one another so as to be configured to conform to the standard one width (1W) and support the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 71, Fukui et al. discloses the plurality of selectively engaging cassette engaging portions comprises a plurality of slot portions 33b that are each configured to releasably engage with a tab portion 11j of each of the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette (e.g., 2W cassette will comprises two tab portions 11j; 3W cassette will comprise three tab portions 11j, etc.; Figs. 2, 5, and 9; col. 8 lines 52-56).

Re. Claim 72, Fukui et al. discloses the plurality of slot portions 33b include at least two slot portions that are configured to releasably engage with at least two corresponding tab portions 11j of each of the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette (e.g., 2W cassette will comprises two tab portions 11j; 3W cassette will comprise three tab portions 11j, etc.; Figs. 2, 5, and 9; col. 8 lines 52-56).

Re. Claim 73, Fukui et al. discloses the tray means comprises a tray member 30e that includes a first tray member side end portion and a second tray member side end portion defining a tray member width portion extending between the first tray member side end portion and the second tray member side end portion, and where the tray member width portion is configured to fit in a standard U- space width dimension (Fig. 9; col. 8 lines 17-19 and 45-48).

Re. Claim 74, Fukui et al. discloses the fiber optic receptable module 10 includes a first module side end portion and a second module side end portion defining a module width portion extending between the first tray end portion and second tray member end portion, and the module width portion is configured to fit in the standard one width (1 W) unit (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 75, Fukui et al. discloses the modular 2W standard width unit size cassette includes a first 2W cassette side end portion 11d and a second 2W cassette side end portion 11c configured to define a 2W standard cassette width unit that extends between the first 2W cassette side end portion 11d and the second 2W cassette side end portion 11c that is configured to fit the standard two width (2W) unit (Fig. 5; col. 7 lines 23-33).

Re. Claim 76, Fukui et al. discloses the modular 3W standard width unit size cassette includes a first 3W cassette side end portion and a second 3W cassette side end portion defining a 3W standard cassette width unit extending between the first 3W cassette side end portion and the second 3W cassette side end portion that is configured to fit the standard three width (3W) unit (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 77, Fukui et al. discloses the modular 4W standard width unit size cassette includes a first 4W cassette side end portion and a second 4W cassette side end portion defining a 4W standard cassette width unit extending between the first 4W cassette side end portion and the second 4W cassette side end portion that is configured to fit the standard four width (4W) unit (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 78, Fukui et al. discloses the modular 6W standard width unit size cassette includes a first 6W cassette side end portion and a second 6W cassette side end portion defining a 6W standard cassette width unit extending between the first 6W cassette side end portion and the second 6W cassette side end portion that is configured to fit the standard six width (6W) unit (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 79, Fukui et al. discloses the modular 2W standard width unit size cassette is configured to fit two receptacle modules 10 (Figs. 1 and 5; col. 7 lines 23-33).

Re. Claim 80, Fukui et al. discloses the modular 3W standard width unit size cassette is configured to fit three receptacle modules 10 (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 81, Fukui et al. discloses the modular 4W standard width unit size cassette is configured to fit four receptacle modules 10 (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 82, Fukui et al. discloses modular 6W standard width unit size cassette is configured to fit six receptacle modules 10 (Figs. 1 and 5; col. 7 lines 65-67; col. 8 lines 1-3).

Re. Claim 83, Fukui et al. discloses the fiber optic receptacle module 10 is configured to fit at least four fiber optic plug receiving receptacle portions 13 (Fig. 1; col. 5 lines 24-27).

Re. Claim 84, Fukui et al. discloses the fiber optic receptacle module that is configured to fit at least four fiber optic plug receiving receptacle portions 13 in the standard one width (1W) unit (Fig. 1; col. 5 lines 24-27).

Re. Claim 85, Fukui et al. discloses the standard one width (1W) unit is based on a standard LC Quad width unit that is configured to fit four optical fiber connectors (e.g., “1W” is based on LC quad technology footprint, and thus “based on a standard SC Duplex width unit,” since by industry standards the footprint of four (quad) LC connectors is designed to fit the footprint of dual SC connectors; col. 5 lines 24-36).

Re. Claim 86, Fukui et al. discloses the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit four optical fiber connectors (e.g., “1W” is based on LC quad technology footprint, and thus “based on a standard SC Duplex width unit,” since by industry standards the footprint of four (quad) LC connectors is designed to fit the footprint of dual SC connectors; col. 5 lines 24-36).

Re. Claim 87, Fukui et al. discloses the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit a plurality of different type of LC, SC, and MPO connectors (e.g., “1W” is based on LC quad technology footprint, and thus “based on a standard SC Duplex width unit,” since by industry standards the

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footprint of four (quad) LC connectors is designed to fit the footprint of dual SC connectors; col. 5 lines 24-36).

Re. Claim 88, Fukui et al. discloses the tray means comprises a row of cassette engaging portions 33 of the tray means 30e are spaced apart from one another so as to conform to the standard one width (1W) and support the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette (Fig. 9; col. 8 lines 52-56).

Re. Claim 89, Fukui et al. discloses the row of cassette engaging portions 33 comprises a row of slot portions that are each spaced apart from one another (Fig. 9; col. 8 lines 52-56).

Re. Claim 90, Fukui et al. discloses the row of cassette engaging portions 33 comprises a first row of cassette engaging portions 33b, and the tray means includes a second row of cassette engaging portion 33a that is spaced away from the first row of cassette engaging portions 33b (Fig. 9; col. 8 lines 52-56).

Re. Claim 91, Fukui et al. discloses the first row of cassette engaging portion 33b comprises a first row of slot portions that are each configured to engage a tab portion 11j of each modular cassette (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 92, Fukui et al. discloses the row of cassette engaging portions 33 comprises a front row of cassette engaging portions 33a, and the tray includes a rear row of cassette engaging portion 33b that is spaced away from the front row of cassette engaging portions 33a (Fig. 9; col. 8 lines 52-56).

Re. Claim 93, Fukui et al. discloses the front row of cassette engaging portion comprises 33a a front row of slot portions that are each configured to engage a tab portion 11i of each modular cassette (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 94, Fukui et al. discloses the rear row of cassette engaging portion 33b comprises a rear row of aperture portions that are each configured to engage a moveable tab portion 11j (e.g., flexible hook) of each modular cassette that is configured to move between a first position, where the tab portion is configured to prevent each modular cassette from being released from the tray member, and a second position, where the tab portion is configured to permit each modular cassette to be released from the tray member (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 95, Fukui et al. discloses the moveable tab portion 11j includes a boss portion that is configured to engage a corresponding aperture portion of the rear row of cassette engaging portion when the moveable tab portion is in the first position (Fig. 2; col. 8 lines 52-56).

Re. Claim 96, Fukui et al. discloses the tray means 10e includes a cassette engaging shoulder (e.g., inside edge of hole 33a) that is configured to fit a channel portion (e.g., channel formed by hook 11i) of each of the plurality of modular fiber optic cassettes (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 97, Fukui et al. discloses the cassette engaging shoulder (e.g., inside edge of hole 33a) is located adjacent to a front end portion of the tray means 10e such that the tray member 10e is configured to support each of the modular fiber optic cassettes at a front location of the tray means (Fig. 9).

Re. Claim 98, Fukui et al. discloses the tray means 30e is configured to slidably received in at least a portion of a tray member receiving space of a case 30g/30c/30d of a fiber management system (Fig. 9; col. 8 lines 57-64).

Re. Claim 99, Fukui et al. discloses each of the modular fiber optic cassettes include a cassette side end portion 11a that is directly adjacent (e.g., lacking intervening structure) to a cassette side end portion 11a of another module fiber optic cassette when the modular fiber optic cassettes means are in the plurality of the plurality of different modular fiber optic cassette configurations (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 100, Fukui et al. discloses each of the modular fiber optic cassettes include a cassette side end portion 11a of one modular fiber optic cassette that is adjacent to a cassette side end portion 11a of another module fiber optic cassette when each of the plurality of modular fiber optic cassettes are in the plurality of the plurality of different modular fiber optic cassette configurations (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 101, Fukui et al. discloses each of the modular fiber optic cassettes include a cassette side end portion 11a of one modular fiber optic cassette that touches a cassette side end portion 11a of another module fiber optic cassette when each of the modular fiber optic cassettes are in the plurality of the plurality of different modular fiber optic cassette configurations (Figs 5-8; col. 5 lines 6-12; col. 6 lines 21-32).

Re. Claim 102, Fukui et al. discloses the tray means has a tray member width that is configured to support at least twelve standard one width (1W) units side by side along a row (Figs 6-9).

Re. Claim 103, Fukui et al. discloses the tray means has a first tray member end portion, a second tray member end portion that is spaced away from the first tray member end portion so as to define a tray member width extending between the first tray end member portion and the second tray end member portion, and wherein the tray member width is configured to support at least twelve standard one width (1W) units side by side along the tray member (Figs 6-9).

Re. Claim 104, Fukui et al. discloses each modular fiber optic cassette comprises a multi-fiber connector receiving receptacle portion 12 arranged on a rear portion thereof and a plurality of optic fibers, one of the optic fibers being configured to interconnect a respective one of the optic plug receiving receptacle portions 12 with the multi-fiber connector receiving receptacle portion 13 (Fig. 4; col. 6 lines 33-48).

Re. Claim 105, Fukui et al. discloses each modular fiber optic cassette comprises four fiber optic plug receiving receptacle portions 13 configured to be arranged side by side in a row along a front portion thereof for each standard width (1W) unit (Fig. 1; col. 5 lines 24-27).

Re. Claim 106, Fukui et al. discloses the tray means 10e is configured to be mounted in a rack (col. 9 lines 30-34).

Re. Claim 107, Fukui et al. discloses the tray means 10e is configured to be mounted in a standard U-space rack (col. 9 lines 30-34).

Re. Claim 108, Fukui et al. discloses the tray means 10e comprises a cassette fastening tray portion 33a that is configured to removably secure the tray 10e to the modular cassette means (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 108, Fukui et al. discloses the tray means 10e comprises a cassette fastening portion 33 that is configured to removably secure the tray means to each modular fiber optic cassette (Figs. 2 and 9; col. 8 lines 52-56).

Re. Claim 112, Fukui et al. discloses the tray means comprises a tray member that is configured to support the plurality of different modular fiber optic cassette configurations in a standard U-space width (Fig. 9; col. 8 lines 16-32; col. 9 lines 30-35).

Re. Claim 113, Fukui et al. discloses a tray 30 for providing a plurality of different modular fiber optic cassette configurations in a standard U-space (Fig. 9; col. 8 lines 16-32; col. 9 lines 30-35) comprising:

a tray means 30e for supporting a plurality of different modular fiber optic cassette configurations (Figs. 6-9; col. 8 lines 17-19 and 45-48; col. 9 lines 30-35);

wherein each of the plurality of different sizes of modular fiber optic cassette configurations include different sizes of modular fiber optic cassettes (1W, 2W, etc.);

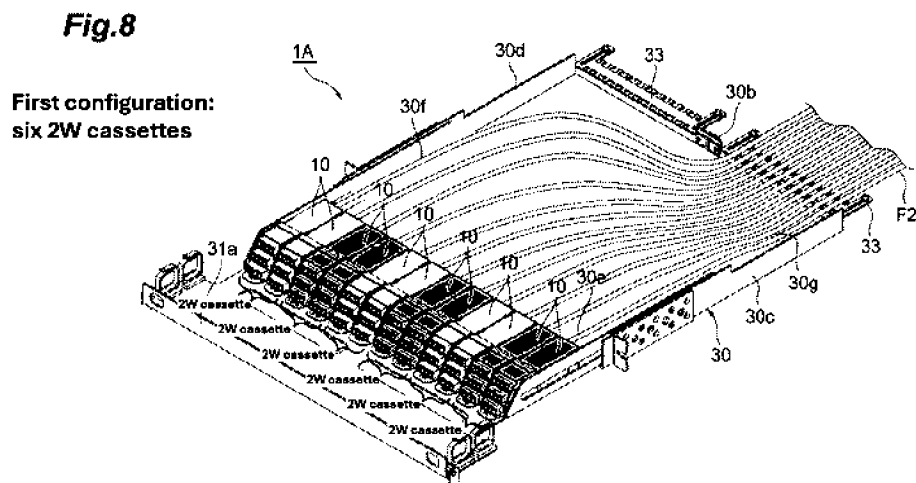
wherein each of the different sizes of modular fiber optic cassettes is configured to support a fiber optic receptacle module 10 that is configured to fit in a standard one width (1W) unit (Figs. 1-2; col. 5 lines 24-27);

wherein the plurality of different sizes of modular fiber optic cassettes includes a standard two width (2W) cassette 20 that is configured to fit a standard two width (2W) unit relative to the standard one width (1W) unit (Fig. 5; col. 7 lines 23-33), a standard three width (3W) cassette that is configured to fit a standard three width (3W) unit relative to the standard one width (1W) unit (e.g., 36 cores with three integral units 10 each having three tiers; col. 7 line 67; col. 8 lines 1-6), a standard four width (4W) cassette that is configured to fit a standard four width (4W) unit relative to the standard

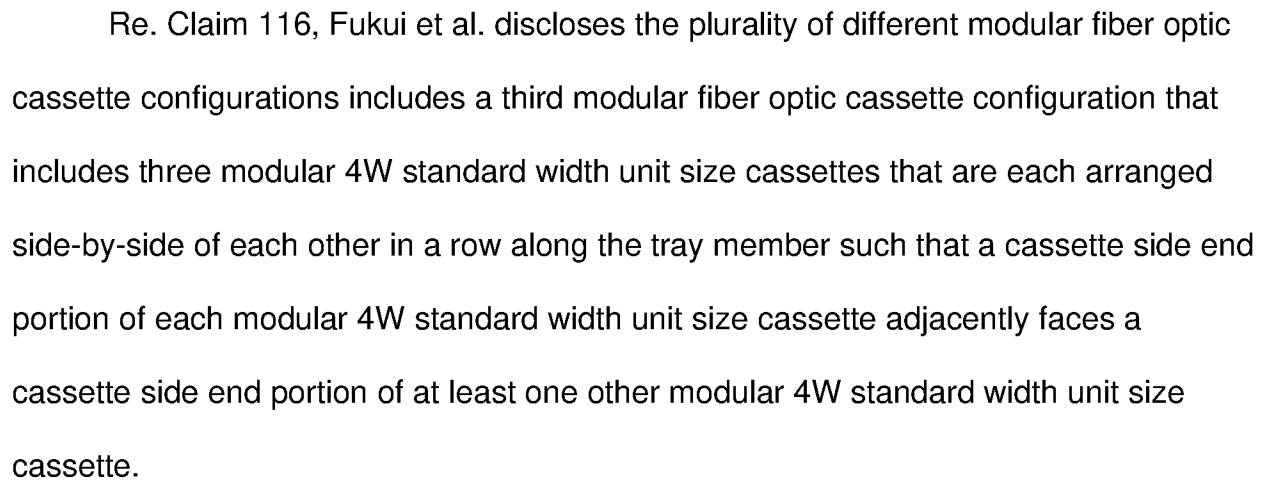
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one width (1W) unit (e.g., 48 cores with three integral units 10 each having three tiers; col. 7 line 67; col. 8 lines 1-6), and a standard six width (6W) cassette that is configured to fit a standard six width (6W) unit relative to the standard one width (1W) unit.

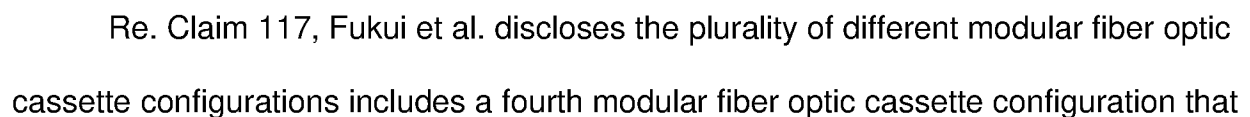
Re. Claim 114, Fukui et al. discloses the plurality of different modular fiber optic cassette configurations includes a first modular fiber optic cassette configuration that includes six modular 2W standard width unit size cassettes that are each arranged side-by-side of each other along the tray member such that a cassette side end portion of each modular 2W standard width unit size cassette adjacently faces a cassette side end portion of at least one other modular 2W standard width size cassette.



**Second configuration:
four 3W cassettes**

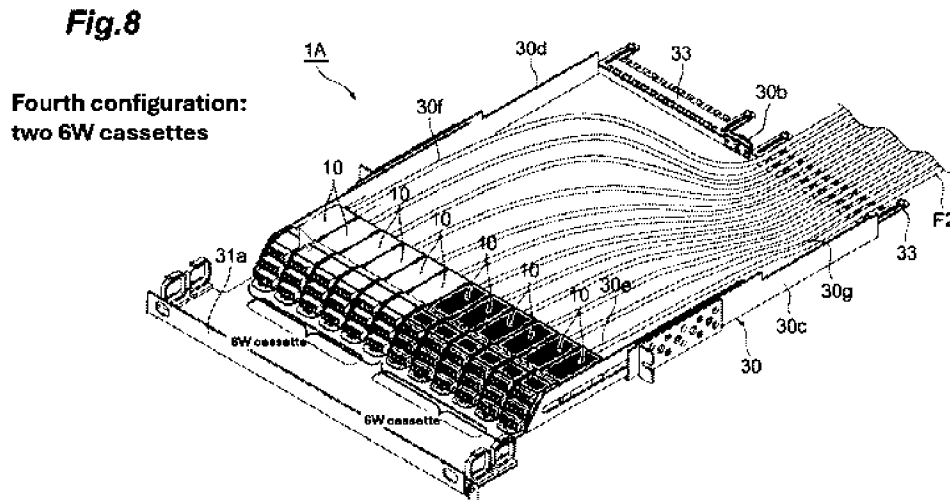


**Third configuration:
three 4W cassettes**



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includes two modular 6W standard width unit size cassettes that are each arranged side-by-side of each other in a row along the tray member such that a cassette side end portion of one of the two modular 6W standard width unit size cassettes adjacently faces a cassette side end portion of the other modular 6W standard width unit size cassette.



Claim Rejections - 35 USC § 103

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis (i.e., changing from AIA to pre-AIA) for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having

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ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries for establishing a background for determining obviousness under 35 U.S.C. 103 are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim(s) 22, 23, 56, 57, 110, 111 is/are rejected under 35 U.S.C. 103 as being unpatentable over Fukui et al. (US 10,101,551 B2) and Murray et al. (US 2016/0231525 A1).

Re. Claims 22, 23, 56, 57, 110, and 111, Fukui et al. discloses the tray as discussed above, but fails to disclose an arrangement wherein the tray means is configured to be removable secured to *an elongate cable management bracket that includes a bracket width that fits in the standard one width (1W) unit, wherein the elongate cable management bracket includes a cable management loop that is configured to be positioned in front of and to a side of an optic plug receiving receptacle portion of a modular cassette when the cable management loop is removably secured to the tray.*

Murray et al. discloses a tray member (Figs. 1, 93, 94) is configured to be removably secured to an elongate cable management bracket 870 that includes a cable management loop that is configured to be positioned in front of and to a side of an optic plug receiving receptacle portion of a modular cassette 160 when the cable

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management loop is removably secured to the tray member (Figs. 93-95; [0197], [0199]).

The claimed arrangement would have been obvious to one of ordinary skill in the art before the effective filing date of the current invention, since the same provides cable management and organization to the arrangement, thereby making the arrangement accessible for later management (Murray et al.: [0002]).

Murray et al. does not explicitly disclose forming the bracket width to fit the standard one width (1W) unit, but the same would have been obvious to one of ordinary skill in the art before the claimed invention was effectively filed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the attached PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. PEACE whose telephone number is (571)272-8580.

The examiner can normally be reached 9-5 pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Uyen-Chau Le can be reached on (571) 272-2397. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/RHONDA S PEACE/
Primary Examiner, Art Unit 2874
9/27/24

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor: Vincent PILON	) Confirmation No. 5444
	)
Application No.: 18/328,431	) Art Unit: 2874
	)
Filed: June 2, 2023	) Examiner: Rhonda S. Peace
	)
Title: TRAY MEANS FOR PROVIDING	)
A PLURALITY OF DIFFERENT	)
MODULAR CASSETTE	)
CONFIGURATIONS IN A FIBER	)
OPTIC MANAGEMENT SYSTEM	)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE TO OFFICE ACTION

In reply to the Office Action dated September 29, 2024, the non-fee period for response to which extends through March 29, 2024, by the attached petition for a three (3) month extension of time and the requisite fee of \$1590 Applicant respectfully submits the following amendments and remarks as indicated below with an X:

	AMENDMENTS TO THE TITLE
	AMENDMENTS TO THE SPECIFICATION
X	AMENDMENTS TO THE CLAIMS
	AMENDMENTS TO THE DRAWINGS
	AMENDMENTS TO THE ABSTRACT
X	REMARKS

-

AMENDMENTS TO THE CLAIMS

Please amend claims 1-238 as indicated in the following listing of claims, which replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. - 117. (Canceled)

118. (New) A tray for providing a plurality of different modular fiber optic cassette configurations in a standard U-space fiber optic management system comprising:

a tray means having a first tray side end portion and a second tray side end portion defining a tray width portion of a standard U-space fiber management system, the tray width portion extending between the first tray side end portion and the second tray side end portion;

wherein the tray width portion is configured to fit a standard U-space width dimension;

wherein the tray means is for fitting a plurality of different modular fiber optic cassette configurations in the tray width portion of the standard U-space fiber management system;

wherein each of the plurality of different modular fiber optic cassette configurations include a modular fiber optic cassette means for supporting a receptacle module having a first module side end portion and a second module side end portion defining a module width portion extending between the first tray end portion and second tray end portion;

wherein the module width portion is configured to fit in a standard one width (1W) unit;

wherein the modular fiber optic cassette means includes a first cassette side end portion and a second cassette side end portion defining a standard cassette width unit extending between the first cassette side end portion and the second

cassette side end portion that comprises a standard two width (2W) unit, a standard three width (3W) unit, a standard four width (4W) unit, or a standard a standard six width (6W) unit relative to the standard one width (1W) unit;

wherein the receptacle module is configured to consist of only four fiber optic plug receiving receptacle portions in a standard one width (1W) unit;

wherein the plurality of different modular fiber optic cassette configurations comprise:

a first modular fiber optic cassette configuration that includes six modular two standard width unit (2W) cassettes that are each arranged side by side of each other along the tray such that a cassette side end portion of each modular two standard width (2W) cassette adjacently faces a cassette side end portion of at least one other modular two standard width (2W) cassette;

a second modular fiber optic cassette configuration that includes four modular three standard width unit (3W) cassettes that are each arranged side by side of each other in a row along the tray such that a cassette side end portion of each modular three standard width (3W) cassette adjacently faces a cassette side end portion of at least one other modular three standard width (3W) cassette;

a third modular fiber optic cassette configuration that includes three modular four standard width unit (4W) cassettes that are each arranged side by side of each other in a row along the tray such that a cassette side end portion of each modular four standard width (4W) cassette adjacently faces a cassette side end portion of at least one other modular four standard width (4W) cassette; and

a fourth modular fiber optic cassette configuration that includes two modular six standard width unit (6W) cassettes that are each arranged side by side of each other in a row along the tray such that a cassette side end portion of one of the two modular six standard width (6W) cassettes adjacently faces a cassette side end portion of the other modular six standard width (6W) cassette;

wherein each modular two standard width (2W) cassette is configured to fit two receptacle modules;

wherein each modular three standard width (3W) cassette is configured to fit three receptacle modules;

wherein each modular four standard width (4W) cassette is configured to fit four receptacle modules;

wherein each modular six standard width (6W) cassette is configured to fit six receptacle modules;

wherein the tray means is configured to be removably secured to the modular fiber optic cassette means when the tray fits the plurality of different modular fiber optic cassette configurations within the tray width portion in the standard U-space fiber management system; and

wherein the tray means includes a plurality of cassette engaging portions that are configured to conform to the standard one width (1W) so as to support the modular two standard width (2W) cassette, the modular three standard width (3W) cassette, the modular four standard width (4W) cassette, and the modular six standard width (6W) cassette.

119. (New) The tray of claim 118, wherein the tray means comprises a tray member that is configured to fit the plurality of different modular fiber optic cassette configurations in the tray width portion of the standard U-space fiber management system.
120. (New) The tray of claim 118, wherein the plurality of different modular fiber optic cassette configurations further comprise a fifth modular fiber optic cassette configuration that includes three modular two standard width unit (2W) cassettes, which are each arranged side by side of each other in a row along the tray such that a cassette side end portion of one of the three modular two standard width (2W) cassettes adjacently faces a cassette side end portion of one of the other modular two standard width (2W) cassette, and one modular six standard width unit (6W) cassette that is arranged side by side in a row along the tray with one of

the three modular two standard width unit (2W) cassettes, such that a cassette side end portion of the one modular six standard width unit (6W) cassette adjacently faces a cassette side end portion of one of the other three modular two standard width unit (2W) cassettes.

121. (New) The tray of claim 118, wherein the standard one width (1W) unit is based on a standard LC Quad width unit that is configured to fit four optical fiber connectors.
122. (New) The tray of claim 118, wherein the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit four optical fiber connectors.
123. (New) The tray of claim 118, wherein the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit an plurality of different type of LC, SC, and MPO connectors.
124. (New) The tray of claim 118, wherein the plurality of cassette engaging portions of the tray are spaced apart from one another so as to conform to the standard one width (1W) and support the modular two standard width (2W) cassette, the modular three standard width (3W) cassette, the modular four standard width (4W) cassette, and the modular six standard width (6W) cassette.
125. (New) The tray of claim 118, wherein the tray means includes a cassette engaging shoulder that is configured to fit a channel portion of the modular fiber optic cassette means.
126. (New) The tray of claim 125, wherein the cassette engaging shoulder is located adjacent to a front end portion of the tray means such that the tray means is configured to support the modular fiber optic cassette means at a front location of the tray means.

127. (New) The tray of claim 118, wherein the tray means is configured to be slideably received in at least portion of a tray receiving space of a case of a fiber optic management system.
128. (New) The tray of claim 118, wherein the modular fiber optic cassette means comprises a plurality of modular fiber optic cassette means that include a cassette side end portion that is directly adjacent to a cassette side end portion of another module fiber optic cassette means when each of the plurality of modular fiber optic cassettes means are in the plurality of the plurality of different modular fiber optic cassette configurations.
129. (New) The tray of claim 118, wherein the modular fiber optic cassette means comprises a plurality of modular fiber optic cassette means that include a cassette side end portion of one modular fiber optic cassette means that is adjacent to a cassette side end portion of another module fiber optic cassette when each of the plurality of modular fiber optic cassette means are in the plurality of the plurality of different modular fiber optic cassette configurations.
130. (New) The tray of claim 118, wherein the modular fiber optic cassette means comprises a plurality of modular fiber optic cassette means that include a cassette side end portion of one modular fiber optic cassette means that touches a cassette side end portion of another module fiber optic cassette when each of the modular fiber optic cassettes means are in the plurality of the plurality of different modular fiber optic cassette configurations.
131. (New) The tray of claim 118, wherein the tray means has a tray width that is configured to receive at least twelve standard one width (1W) units side by side along a row.

132. (New) The tray of claim 118, wherein the tray means including first tray end portion, a second tray end portion spaced away from the first tray end portion so as to define a tray width extending between the first tray end portion and the second tray end portion, and wherein the tray width is configured to fit at least twelve standard one width (1W) units side by side along the tray means.
133. (New) The tray of claim 118, wherein the modular fiber optic cassette means comprise a multi-fiber connector receiving receptacle portion arranged on a rear portion thereof and a plurality of optic fibers, one of the optic fibers being configured to interconnect a respective one of the optic plug receiving receptacle portions with the multi-fiber connector receiving receptacle portion.
134. (New) The tray of claim 118, wherein the four fiber optic plug receiving receptacle portions are configured to be arranged side by side in a row along a front portion thereof for each standard width (1W) unit.
135. (New) The tray of claim 118, wherein the tray means is configured to be mounted in a rack.
136. (New) The tray of claim 135, wherein the tray means is configured to be mounted in a standard U-space rack.
137. (New) The tray of claim 118, wherein the tray means comprises a cassette fastening portion that is configured to removably secure the tray to the modular fiber optic cassette means.
138. (New) The tray of claim 137, wherein the cassette fastening portion comprises a magnet.
139. (New) The tray of claim 137, wherein the cassette fastening tray portion is configured to be disengaged from one of the plurality of modular fiber optic

cassettes using a release portion positioned at a rear cassette portion of each of the plurality of modular fiber optic cassettes.

140. (New) The tray of claim 139, wherein the release portion comprises a flexible tab.
141. (New) The tray of claim 118, wherein the tray means is configured to be removably secured to an elongate cable management bracket that includes a bracket width that fits in the standard one width (1W) unit.
142. (New) The tray of claim 141, wherein the elongate cable management bracket includes a cable management loop that is configured to be positioned in front of and to a side of an optic plug receiving receptacle portion of a modular cassette when the cable management loop is removably secured to the tray.
143. (New) The tray of claim 118, wherein the tray means includes a plurality of cassette engaging tray portions that are each configured to engage a tray engaging cassette portion of each modular fiber optic cassette.
144. (New) A tray for providing a plurality of different modular fiber optic cassette configurations in a fiber optic management system comprising:
- a tray means for fitting a plurality of different modular fiber optic cassette configurations in a standard U-space;
 - wherein each of the plurality of different modular fiber optic cassette configurations include a plurality of different sizes of modular fiber optic cassettes;
 - wherein each of the plurality of different sizes of modular fiber optic cassettes is configured to support a fiber optic receptacle module that is configured to fit in a standard one width (1W) unit;
 - wherein the plurality of different sizes of modular fiber optic cassettes include a 2W cassette size that is configured to fit a standard two width (2W) unit relative to the standard one width (1W) unit, a 3W cassette size that is configured to fit a standard three width (3W) unit relative to the standard one width (1W) unit,

a 4W cassette size that is configured to fit a standard four width (4W) unit relative to the standard one width (1W) unit, and a 6W cassette size that is configured to fit a standard six width (6W) unit relative to the standard one width (1W) unit;

wherein the 2W cassette size consists of only eight fiber optic plug receiving receptacle portions, the 3W cassette size consists of only twelve fiber optic plug receiving receptacle portions, the 4W cassette size consists of only sixteen fiber optic plug receiving receptacle portions, and the 6W cassette size consists of only twenty-four fiber optic plug receiving receptacle portions;

wherein the plurality of different modular fiber optic cassette configurations comprise:

a first modular fiber optic cassette configuration that includes six modular 2W standard width unit size cassettes that are each arranged side by side of each other along the tray such that a cassette side end portion of each modular 2W standard width unit size cassette adjacently faces a cassette side end portion of at least one other modular 2W standard width size cassette;

a second modular fiber optic cassette configuration that includes four modular 3W standard width unit size cassettes that are each arranged side by side of each other in a row along the tray such that a cassette side end portion of each modular 3W standard width size cassette adjacently faces a cassette side end portion of at least one other modular 3W standard width size cassette;

a third modular fiber optic cassette configuration that includes three modular 4W standard width unit size cassettes that are each arranged side by side of each other in a row along the tray such that a cassette side end portion of each modular 4W standard width size cassette adjacently faces a cassette side end portion of at least one other modular 4W standard width size cassette; and

a fourth modular fiber optic cassette configuration that includes two modular 6W standard width unit size cassettes that are each arranged side by side of each other in a row along the tray such that a cassette side end

portion of one of the two modular 6W standard width size cassettes adjacently faces a cassette side end portion of the other modular 6W standard width size cassette;

wherein the tray means is configured to be removably secured to each modular fiber optic cassette when the tray means fits the plurality of different modular fiber optic cassette configurations within a tray width portion in the standard U-space fiber optic management system; and

wherein the tray means includes a plurality of cassette engaging portions that are configured to conform to the standard one width (1W) so as to support the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.

145. (New) The tray of claim 144, wherein the tray means includes a first tray side end portion and a second tray side end portion defining a tray width portion extending between the first tray side end portion and the second tray side end portion, and where the tray width portion is configured to fit in a standard U-space width dimension.
146. (New) The tray of claim 144, wherein the fiber optic receptacle module includes a first module side end portion and a second module side end portion defining a module width portion extending between the first try end portion and second tray end portion, and the module width portion is configured to fit in the standard one width (1 W) unit.
147. (New) The tray of claim 144, wherein the modular 2W standard width unit size cassette includes a first 2W cassette side end portion and a second 2W cassette side end portion defining a 2W standard cassette width unit extending between the first cassette side end portion and the second cassette side end portion that is configured to fit the standard two width (2W) unit.

148. (New) The tray of claim 144, wherein the modular 3W standard width unit size cassette includes a first 3W cassette side end portion and a second 3W cassette side end portion defining a 3W standard cassette width unit extending between the first 3W cassette side end portion and the second 3W cassette side end portion that is configured to fit the standard three width (3W) unit.
149. (New) The tray of claim 144, wherein modular 4W standard width unit size cassette includes a first 4W cassette side end portion and a second 4W cassette side end portion defining a 4W standard cassette width unit extending between the first 4W cassette side end portion and the second 4W cassette side end portion that is configured to fit the standard four width (4W) unit.
150. (New) The tray of claim 144, wherein the modular 6W standard width unit size cassette includes a first 6W cassette side end portion and a second 6W cassette side end portion defining a 6W standard cassette width unit extending between the first 6W cassette side end portion and the second 6W cassette side end portion that is configured to fit the standard six width (6W) unit.
151. (New) The tray of claim 144, wherein the modular 2W standard width unit size cassette is configured to fit two receptacle modules.
152. (New) The tray of claim 144, wherein the modular 3W standard width unit size cassette is configured to fit three receptacle modules.
153. (New) The tray of claim 144, wherein the modular 4W standard width unit size cassette is configured to fit four receptacle modules.
154. (New) The tray of claim 144, wherein the modular 6W standard width unit size cassette is configured to fit six receptacle modules.

155. (New) The tray of claim 144, wherein the standard one width (1W) unit is based on a standard LC Quad width unit that is configured to fit four optical fiber connectors.
156. (New) The tray of claim 144, wherein the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit four optical fiber connectors.
157. (New) The tray of claim 144, wherein the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit a plurality of different type of LC, SC, and MPO connectors.
158. (New) The tray of claim 144, wherein the plurality of cassette engaging portions of the tray means are spaced apart from one another so as to conform to the standard one width (1W) and support the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.
159. (New) The tray of claim 144, wherein the tray means includes a cassette engaging shoulder that is configured to fit a channel portion of each of the modular fiber optic cassettes.
160. (New) The tray of claim 144, wherein the cassette engaging shoulder is located adjacent to a front end portion of the tray means such that the tray means is configured to support each of the modular fiber optic cassettes at a front location of the tray.
161. (New) The tray of claim 144, wherein the tray means is configured to be slideably received in at least portion of a tray receiving space of a case of a fiber optic management system.

162. (New) The tray of claim 144, wherein each of the modular fiber optic cassettes include a cassette side end portion that is directly adjacent to a cassette side end portion of another module fiber optic cassette when each of the modular fiber optic cassettes are in the plurality of the plurality of different modular fiber optic cassette configurations.
163. (New) The tray of claim 144, wherein each of the modular fiber optic cassettes include a cassette side end portion that is adjacent to a cassette side end portion of another module fiber optic cassette when each of the modular fiber optic cassettes are in the plurality of the plurality of different modular fiber optic cassette configurations.
164. (New) The tray of claim 144, wherein each of the modular fiber optic cassettes include a cassette side end portion that is configured to touch a cassette side end portion of another module fiber optic cassette when each of the modular fiber optic cassettes are in the plurality of the plurality of different modular fiber optic cassette configurations.
165. (New) The tray of claim 144, wherein the tray means has a tray width that is configured to receive at least twelve standard one width (1W) units side by side along a row.
166. (New) The tray of claim 144, wherein the tray means has a first tray end portion, a second tray end portion that is spaced away from the first tray end portion so as to define a tray width extending between the first tray end portion and the second tray end portion, and wherein the tray width is configured to support at least twelve standard one width (1W) units side by side along the tray.
167. (New) The tray of claim 144, wherein each of the modular fiber optic cassettes comprises a multi-fiber connector receiving receptacle portion arranged on a rear

portion thereof and a plurality of optic fibers, one of the optic fibers being configured to interconnect a respective one of the optic plug receiving receptacle portions with the multi-fiber connector receiving receptacle portion.

- 168. (New) The tray of claim 144, wherein each of the modules fiber optic cassettes comprises four fiber optic plug receiving receptacle portions configured to be arranged side by side in a row along a front portion thereof for each standard width (1W) unit.
- 169. (New) The tray of claim 144, wherein the tray means is configured to be mounted in a rack.
- 170. (New) The tray of claim 144, wherein the tray means is configured to be mounted in a standard U-space rack.
- 171. (New) The tray of claim 144, wherein the tray means comprises a cassette fastening portion that is configured to removably secure the tray to each modular fiber optic cassette.
- 172. (New) The tray of claim 171, wherein the cassette fastening portion comprises a magnet.
- 173. (New) The tray of claim 171, wherein the cassette fastening tray portion is configured to be disengaged from one of the plurality of modular fiber optic cassettes using a release portion positioned at a rear cassette portion of each of the plurality of modular fiber optic cassettes.
- 174. (New) The tray of claim 173, wherein the release portion comprises a flexible tab.

175. (New) The tray of claim 144, wherein the tray means is configured to be removably secured to an elongate cable management bracket that includes a bracket width that fits in the standard one width (1W) unit.
176. (New) The tray of claim 175, wherein the elongate cable management bracket includes a cable management loop that is configured to be positioned in front of and to a side of an optic plug receiving receptacle portion of a modular fiber optic cassette when the cable management loop is removably secured to the tray means.
177. (New) The tray of claim 144, wherein the tray means includes a plurality of cassette engaging tray portions that are each configured to engage a tray engaging cassette portion of each modular fiber optic cassette.
178. (New) The tray of claim 144, wherein the tray means comprises a tray member that is configured to fit in the standard U-space and support the plurality of different modular fiber optic cassette configurations in the standard U-space.
179. (New) The tray of claim 144, wherein the plurality of different modular fiber optic cassette configurations further comprise a fifth modular fiber optic cassette configuration that includes three modular 2W standard width unit size cassettes, which are each arranged side by side of each other in a row along the tray such that a cassette side end portion of one of the three modular 2W standard width size cassettes adjacently faces a cassette side end portion of one of the other modular 2W standard width size cassette, and one modular 6W standard width unit size cassette that is arranged side by side in a row along the tray with one of the three modular 2W standard width unit size cassettes, such that a cassette side end portion of the one modular 6W standard width unit size cassette adjacently faces a cassette side end portion of one of the other three modular 2W standard width unit size cassettes.

180. (New) A tray for providing a plurality of different modular fiber optic cassette configurations in a standard U-space fiber optic management system comprising:
- a tray means for supporting a plurality of different modular fiber optic cassette configurations;
 - wherein the plurality of different modular fiber optic cassette configurations include different sizes of modular fiber optic cassettes;
 - wherein each of the different sizes of modular fiber optic cassettes is configured to support a fiber optic receptacle module that is configured to fit in a standard one width (1W) unit;
 - wherein the plurality of different sizes of modular fiber optic cassettes include a 2W cassette size that is configured to fit a standard two width (2W) unit relative to the standard one width (1W) unit, a 3W cassette size that is configured to fit a standard three width (3W) unit relative to the standard one width (1W) unit, a 4W cassette size that is configured to fit a standard four width (4W) unit relative to the standard one width (1W) unit, and a 6W cassette size that is configured to fit a standard six width (6W) unit relative to the standard one width (1W) unit;
 - wherein the 2W cassette size is configured to consist of only eight fiber optic plug receiving receptacle portions, the 3W cassette size is configured to consist of only twelve fiber optic plug receiving receptacle portions, the 4W cassette size is configured to consist of only sixteen fiber optic plug receiving receptacle portions, and the 6W cassette size is configured to consist of only twenty-four fiber optic plug receiving receptacle portions;
 - wherein the plurality of different modular fiber optic cassette configurations comprise:
 - a first modular fiber optic cassette configuration that includes six modular 2W standard width unit size cassettes that are each arranged side by side of each other along the tray means such that a cassette side end portion of each modular 2W standard width unit size cassette adjacently faces a cassette side end portion of at least one other modular 2W standard width size cassette;

a second modular fiber optic cassette configuration that includes four modular 3W standard width unit size cassettes that are each arranged side by side of each other in a row along the tray means such that a cassette side end portion of each modular 3W standard width size cassette adjacently faces a cassette side end portion of at least one other modular 3W standard width size cassette;

a third modular fiber optic cassette configuration that includes three modular 4W standard width unit size cassettes that are each arranged side by side of each other in a row along the tray means such that a cassette side end portion of each modular 4W standard width size cassette adjacently faces a cassette side end portion of at least one other modular 4W standard width size cassette; and

a fourth modular fiber optic cassette configuration that includes two modular 6W standard width unit size cassettes that are each arranged side by side of each other in a row along the tray means such that a cassette side end portion of one of the two modular 6W standard width size cassettes adjacently faces a cassette side end portion of the other modular 6W standard width size cassette; and wherein the tray means is configured to conform to the standard one width (1W) so as to support the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.

181. (New) The tray of claim 180, wherein the tray means is for fitting in a standard U-space width.
182. (New) The tray of claim 180, wherein the tray means comprises a tray member that is configured to fit a plurality of different modular fiber optic cassette configurations in a standard U-space width.

183. (New) The tray of claim 180, wherein each of the plurality of different modular fiber optic cassette configurations include a plurality of different sizes of modular fiber optic cassettes.
184. (New) The tray of claim 180, wherein the plurality of different modular fiber optic cassette configurations further comprise a fifth modular fiber optic cassette configuration that includes three modular 2W standard width unit size cassettes, which are each arranged side by side of each other in a row along the tray means such that a cassette side end portion of one of the three modular 2W standard width size cassettes adjacently faces a cassette side end portion of one of the other modular 2W standard width size cassette, and one modular 6W standard width unit size cassette that is arranged side by side in a row along the tray means with one of the three modular 2W standard width unit size cassettes, such that a cassette side end portion of the one modular 6W standard width unit size cassette adjacently faces a cassette side end portion of one of the other three modular 2W standard width unit size cassettes.
185. (New) The tray of claim 180, wherein the tray means comprises a tray member that is configured to be removably secured to each modular fiber optic cassette when the tray member supports the plurality of different modular fiber optic cassette configurations within a tray member width portion in a standard U- space fiber management system.
186. (New) The tray of claim 180, wherein the tray means includes a plurality of selectively engaging cassette engaging portions that are configured to conform to the standard one width (1W) so as to support the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.

187. (New) The tray of claim 180, wherein the plurality of selectively engaging cassette engaging portions comprises a plurality of slot portions that are each configured to releasably engage with a tab portion of the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.
188. (New) The tray of claim 180, wherein the plurality of slot portions include at least two slot portions that are configured to releasably engage with at least two corresponding tab portions of each of the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.
189. (New) The tray of claim 180, wherein the tray means includes a plurality of selectively engaging cassette engaging portions that are spaced apart from one another so as to be configured to conform to the standard one width (1W) and support the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.
190. (New) The tray of claim 189, wherein the plurality of selectively engaging cassette engaging portions comprises a plurality of slot portions that are each configured to releasably engage with a tab portion of each of the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.
191. (New) The tray of claim 190, wherein the plurality of slot portions include at least two slot portions that are configured to releasably engage with at least two corresponding tab portions of each of the modular 2W standard width unit size

cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.

192. (New) The tray of claim 180, wherein the tray means comprises a tray member that includes a first tray member side end portion and a second tray member side end portion defining a tray member width portion extending between the first tray member side end portion and the second tray member side end portion, and where the tray member width portion is configured to fit in a standard U- space width dimension.
193. (New) The tray of claim 180, wherein the fiber optic receptacle module includes a first module side end portion and a second module side end portion defining a module width portion extending between the first try end portion and second tray member end portion, and the module width portion is configured to fit in the standard one width (1 W) unit.
194. (New) The tray of claim 180, wherein modular 2W standard width unit size cassette includes a first 2W cassette side end portion and a second 2W cassette side end portion defining a 2W standard cassette width unit extending between the first cassette side end portion and the second cassette side end portion that is configured to fit the standard two width (2W) unit.
195. (New) The tray of claim 180, wherein the modular 3W standard width unit size cassette includes a first 3W cassette side end portion and a second 3W cassette side end portion defining a 3W standard cassette width unit extending between the first 3W cassette side end portion and the second 3W cassette side end portion that is configured to fit the standard three width (3W) unit.
196. (New) The tray of claim 180, wherein modular 4W standard width unit size cassette includes a first 4W cassette side end portion and a second 4W cassette

side end portion defining a 4W standard cassette width unit extending between the first 4W cassette side end portion and the second 4W cassette side end portion that is configured to fit the standard four width (4W) unit.

197. (New) The tray of claim 180, wherein the modular 6W standard width unit size cassette includes a first 6W cassette side end portion and a second 6W cassette side end portion defining a 6W standard cassette width unit extending between the first 6W cassette side end portion and the second 6W cassette side end portion that is configured to fit the standard six width (6W) unit.
198. (New) The tray of claim 180, wherein the modular 2W standard width unit size cassette is configured to fit two receptacle modules.
199. (New) The tray of claim 180, wherein the modular 3W standard width unit size cassette is configured to fit three receptacle modules.
200. (New) The tray of claim 180, wherein the modular 4W standard width unit size cassette is configured to fit four receptacle modules.
201. (New) The tray of claim 180, wherein the modular 6W standard width unit size cassette is configured to fit six receptacle modules.
202. (New) The tray of claim 180, wherein the standard one width (1W) unit is based on a standard LC Quad width unit that is configured to fit four optical fiber connectors.
203. (New) The tray of claim 180, wherein the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit four optical fiber connectors.

204. (New) The tray of claim 180, wherein the standard one width (1W) unit is based on a standard SC Duplex width unit that is configured to fit an plurality of different type of LC, SC, and MPO connectors.
205. (New) The tray of claim 180, wherein the tray means comprises a row of cassette engaging portions that are spaced apart from one another so as to conform to the standard one width (1W) and support the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.
206. (New) The tray of claim 205, wherein the row of cassette engaging portions comprises a row of slot portions that are each spaced apart from one another.
207. (New) The tray of claim 205, wherein the row of cassette engaging portions comprises a first row of cassette engaging portions, and the tray means includes a second row of cassette engaging portions that is spaced away from the first row of cassette engaging portions.
208. (New) The tray of claim 207, wherein the first row of cassette engaging portions comprises a first row of slot portions that are each configured to engage a tab portion of each modular fiber optic cassette.
209. (New) The tray of claim 205, wherein the row of cassette engaging portions comprises a front row of cassette engaging portions, and the tray includes a rear row of cassette engaging portions that is spaced away from the front row of cassette engaging portions.
210. (New) The tray of claim 209, wherein the front row of cassette engaging portions comprises a front row of slot portions that are each configured to engage a tab portion of each modular fiber optic cassette.

211. (New) The tray of claim 210, wherein the rear row of cassette engaging portions comprises a rear row of aperture portions that are each configured to engage a moveable tab portion of each modular fiber optic cassette that is configured to move between a first position, where the tab portion is configured to prevent each modular fiber optic cassette from being released from the tray member, and a second position, where the tab portion is configured to permit each modular fiber optic cassette to be released from the tray member.
212. (New) The tray of claim 211, wherein the moveable tab portion includes a boss portion that is configured to engage a corresponding aperture portion of the rear row of cassette engaging portions when the moveable tab portion is in the first position.
213. (New) The tray of claim 180, wherein the tray means includes a cassette engaging shoulder that is configured to fit a channel portion of each of the modular fiber optic cassettes.
214. (New) The tray of claim 213, wherein the cassette engaging shoulder is located adjacent to a front end portion of the tray means such that the tray means is configured to support each of the modular fiber optic cassettes at a front location of the tray means.
215. (New) The tray of claim 180, wherein the tray means is configured to be slideably received in at least portion of a tray member receiving space of a case of a fiber optic management system.
216. (New) The tray of claim 180, wherein each of the modular fiber optic cassettes include a cassette side end portion that is directly adjacent to a cassette side end portion of another module fiber optic cassette when each of the modular fiber optic

cassettes are in the plurality of the plurality of different modular fiber optic cassette configurations.

217. (New) The tray of claim 180, wherein each of the modular fiber optic cassettes include a cassette side end portion that is adjacent to a cassette side end portion of another module fiber optic cassette when each of the modular fiber optic cassettes are in the plurality of the plurality of different modular fiber optic cassette configurations.
218. (New) The tray of claim 180, wherein each of the modular fiber optic cassettes include a cassette side end portion that touches a cassette side end portion of another module fiber optic cassette when each of the modular fiber optic cassettes are in the plurality of the plurality of different modular fiber optic cassette configurations.
219. (New) The tray of claim 180, wherein the tray means has a tray member width that is configured to support at least twelve standard one width (1W) units side by side along a row.
220. (New) The tray of claim 180, wherein the tray means has a first tray member end portion, a second tray member end portion that is spaced away from the first tray member end portion so as to define a tray member width that extends between the first tray member end portion and the second tray member end portion, and wherein the tray member width is configured to support at least twelve standard one width (1W) units side by side along the tray member.
221. (New) The tray of claim 180, wherein each of the modular fiber optic cassettes comprises a multi-fiber connector receiving receptacle portion arranged on a rear portion thereof and a plurality of optic fibers, one of the optic fibers being configured to interconnect a respective one of the optic plug receiving receptacle portions with the multi-fiber connector receiving receptacle portion.

- 222. (New) The tray of claim 180, wherein each of the modules fiber optic cassettes comprises four fiber optic plug receiving receptacle portions configured to be arranged side by side in a row along a front portion thereof for each standard width (1W) unit.
- 223. (New) The tray of claim 180, wherein the tray means is configured to be mounted in a rack.
- 224. (New) The tray of claim 180, wherein the tray means is configured to be mounted in a standard U-space rack.
- 225. (New) The tray of claim 180, wherein the tray means comprises a cassette fastening portion that is configured to removably secure the tray means to each modular fiber optic cassette.
- 226. (New) The tray of claim 225, wherein the cassette fastening portion comprises a magnet.
- 227. (New) The tray of claim 225, wherein the cassette fastening tray portion is configured to be disengaged from one of the plurality of modular fiber optic cassettes using a release portion positioned at a rear cassette portion of each of the plurality of modular fiber optic cassettes.
- 228. (New) The tray of claim 227, wherein the release portion comprises a flexible tab.
- 229. (New) The tray of claim 180, wherein the tray means is configured to be removably secured to an elongate cable management bracket that includes a bracket width that fits in the standard one width (1W) unit.

230. (New) The tray of claim 227, wherein the elongate cable management bracket includes a cable management loop that is configured to be positioned in front of and to a side of an optic plug receiving receptacle portion of a modular fiber optic cassette when the cable management loop is removably secured to the tray means.
231. (New) The tray of claim 180, wherein the tray means comprises a tray member that is configured to support the plurality of different modular fiber optic cassette configurations in a standard U-space width.
232. (New) A tray for providing a plurality of different modular fiber optic cassette configurations in a standard U-space fiber optic management system comprising:
a tray means for supporting a plurality of different modular fiber optic cassette configurations;
wherein the plurality of different modular fiber optic cassette configurations include different sizes of modular fiber optic cassettes;
wherein each of the different sizes of modular fiber optic cassettes is configured to support a fiber optic receptacle module that is configured to fit in a standard one width (1W) unit;
wherein the plurality of different sizes of modular fiber optic cassettes include a 2W cassette size that is configured to fit a standard two width (2W) unit relative to the standard one width (1W) unit, a 3W cassette size that is configured to fit a standard three width (3W) unit relative to the standard one width (1W) unit, a 4W cassette size that is configured to fit a standard four width (4W) unit relative to the standard one width (1W) unit, and a 6W cassette size that is configured to fit a standard six width (6W) unit relative to the standard one width (1W) unit;
wherein the 2W cassette size is configured to consist of only eight fiber optic plug receiving receptacle portions, the 3W cassette size is configured to consist of only twelve fiber optic plug receiving receptacle portions, the 4W cassette size is configured to consist of only sixteen fiber optic plug receiving receptacle portions,

and the 6W cassette size is configured to consist of only twenty-four fiber optic plug receiving receptacle portions; and

wherein the tray means is configured to conform to the standard one width (1W) so as to support the modular 2W standard width unit size cassette, the modular 3W standard width unit size cassette, the modular 4W standard width unit size cassette, and the modular 6W standard width unit size cassette.

233. (New) The tray of claim 232, wherein the plurality of different modular fiber optic cassette configurations includes a first modular fiber optic cassette configuration that includes six modular 2W standard width unit size cassettes that are each arranged side by side of each other along the tray member such that a cassette side end portion of each modular 2W standard width unit size cassette adjacently faces a cassette side end portion of at least one other modular 2W standard width unit size cassette.
234. (New) The tray of claim 233, wherein the plurality of different modular fiber optic cassette configurations include a second modular fiber optic cassette configuration that includes four modular 3W standard width unit size cassettes that are each arranged side by side of each other in a row along the tray member such that a cassette side end portion of each modular 3W standard width unit size cassette adjacently faces a cassette side end portion of at least one other modular 3W standard width unit size cassette.
235. (New) The tray of claim 234, wherein the plurality of different modular fiber optic cassette configurations include a third modular fiber optic cassette configuration that includes three modular 4W standard width unit size cassettes that are each arranged side by side of each other in a row along the tray member such that a cassette side end portion of each modular 4W standard width unit size cassette adjacently faces a cassette side end portion of at least one other modular 4W standard width unit size cassette.

236. (New) The tray of claim 235, wherein the plurality of different modular fiber optic cassette configurations include a fourth modular fiber optic cassette configuration that includes two modular 6W standard width unit size cassettes that are each arranged side by side of each other in a row along the tray member such that a cassette side end portion of one of the two modular 6W standard width unit size cassettes adjacently faces a cassette side end portion of the other modular 6W standard width unit size cassette.
237. (New) The tray of claim 232, wherein the cassette fastening tray portion is configured to be disengaged from one of the plurality of modular fiber optic cassettes using a release portion positioned at a rear cassette portion of each of the plurality of modular fiber optic cassettes.
238. (New) The tray of claim 232, wherein the release portion comprises a flexible tab.

REMARKS

In response to the Non-Final Office Action dated September 29, 2024, Applicant has cancelled claims 1-117, without prejudice or disclaimer of the subject matter therein, and added new claims 118-238 to protect additional aspects of the elected invention, without adding any new matter to the originally filed disclosure. As a result of this Amendment, claims 118-238 are currently pending.

With this Response, Applicant has submitted the following:

- (a) a Petition for a three-month Extension of Time to reply to the Office Action; and
- (b) the requisite fees.

No other fees are known to be due. The Commissioner, however, is hereby authorized to charge any deficiency to Deposit Account No. 50-2961, and to credit any overpayment to such account.

At the onset, Applicant appreciates the Examiner's courteous efforts to expedite prosecution during the personal interviews conducted on December 17, 2024 and March 20, 2025. During the interviews, the Examiner indicated that the claims set forth above distinguish over the prior art of record. The Examiner also indicated that these claims would place the application in condition for allowance, subject to a new search and further consideration of the prior art. With this in mind, Applicant has added new claims 118-238 to protect additional aspects of the elected invention. As a result of these amendments, claims 118-238 are currently pending. Claims 118-137, 139-171, 173-225, and 227-238 are readable on the elected invention.

On pages 3-4 of the Office Action, the Examiner rejected claims 16-20 and 22 under 35 U.S.C. § 112(b) based on indefiniteness grounds. In response, Applicant has

canceled claims 16-20 and 22, thereby rendering moot the § 112(b) rejection. Accordingly, each of the claims fully complies with 35 U.S.C. § 112(b).

As set forth on pages 4-43 of the Office Action, the Examiner rejected claims 1-20, 24-54, 58-108, and 112-117 under 35 U.S.C. § 102(a)(2) as being allegedly anticipated by Fukui et al. (U.S. Patent No. 10,101,551; hereinafter "Fukui"). Moreover, the Examiner rejected claims 22, 23, 56, 57, 110, and 111 under 35 U.S.C. § 103 as being allegedly unpatentable over Fukui in view of Murray et al. (U.S. Patent Publication No. 2016/0231525; hereinafter "Murray").

The applied references, including Fukui and Murray, however, fail to render the claimed invention unpatentable. Each of the claims recite specific combinations of features that distinguish the invention from the prior art in different ways. For example, independent claim 118 recites a combination that includes, among other things:

“wherein the receptacle module is configured to consist of only four fiber optic plug receiving receptacle portions in a standard one width (1W) unit;”

Moreover, independent claim 144 recites another combination that includes, for example:

“wherein the 2W cassette size consists of only eight fiber optic plug receiving receptacle portions, the 3W cassette size consists of only twelve fiber optic plug receiving receptacle portions, the 4W cassette size consists of only sixteen fiber optic plug receiving receptacle portions, and the 6W cassette size consists of only twenty-four fiber optic plug receiving receptacle portions;”

Independent claim 180 recites yet another combination that includes, *inter alia*:

“wherein the modular 2W cassette is configured to consist of only eight fiber optic plug receiving receptacle portions, the modular 3W cassette is configured to consist of only twelve fiber optic plug receiving receptacle portions, the modular 4W cassette is configured to consist of only sixteen fiber optic plug receiving receptacle portions, and the modular 6W cassette is configured to consist of only twenty-four fiber optic plug receiving receptacle portions;”

In addition, claim 232 recites another combination that includes, *inter alia*:

“wherein the modular 2W cassette is configured to consist of only eight fiber optic plug receiving receptacle portions, the modular 3W cassette is configured to consist of only twelve fiber optic plug receiving receptacle portions, the modular 4W cassette is configured to consist of only sixteen fiber optic plug receiving receptacle portions, and the modular 6W cassette is configured to consist of only twenty-four fiber optic plug receiving receptacle portions;”

At the very least, Fukui and Murray fail to disclose or suggest any of these exemplary features recited in the independent claims.

To establish anticipation under 35 U.S.C. § 102(b), the Examiner must show that each and every feature recited in these claims is either explicitly disclosed or “necessarily present” in a single prior art reference, such as within the four corners of the Fukui patent identified by the Examiner. See M.P.E.P. § 2131 (9th ed. 2014); *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999); *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1269 (Fed. Cir. 1991). To support a conclusion of anticipation, the Examiner must specifically identify “substantial evidence” setting forth why and how the single prior art reference anticipates each and every feature recited in the claims. See, e.g., *In re Mullin*, 481 F.2d 1333, 1336-37 (CCPA 1973) (An Examiner’s bare assertion that claims were obviously anticipated by a reference did not inform the Applicant as to why the claims lacked novelty.); *Dickinson v. Zurko*, 527, U.S. 150 (1999) (holding that the U.S. Patent Office’s finding of fact must be reviewed by the substantial evidence standard).

Moreover, to make out a *prima facie* case of obviousness, the Examiner must clearly demonstrate that:

1. Fukui, as proposed to be repeatedly modified by the teachings of Murray, actually does disclose or suggest each and every feature recited in the claims at issue;
2. there is a reasonable probability of success of such modifications;

3. the proposed combination of prior art elements “does no more than yield predictable results”; and
4. the existence of a teaching, suggestion or apparent reason, either in the explicit teachings of the applied references themselves or in the prior art knowledge available to one of ordinary skill in the art, to make such modification so as to result in the claimed invention.

See M.P.E.P. § 2143 (9th ed. 2014); *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415-421 (2007). It bears emphasizing that each of these requirements must be found in the prior art — not based on mere conclusory, hindsight reasoning in light of Applicant’s own disclosure. See *id.*

In this case, however, the Examiner has failed to satisfy such burden of demonstrating how Fukui, taken alone or in combination with any other prior art reference, can either anticipate or render obvious each and every one of the limitations present in independent claims 118, 144, 180, and 232, as required by the Manual of Patent Examining Procedure (“MPEP”) and Federal Circuit jurisprudence.

Fukui discloses a tray (base member 30) comprising a tray member (bottom panel 30e) configured to fit a plurality of modular fiber optic cassettes, wherein each of the plurality of modular fiber optic cassettes comprises a modular cassette width portion that is configured to fit a plurality of standard modular cassette width units (conversion module 10, conversion module 20). See Fukui. The Examiner alleges that conversion module 10 comprises a standard width unit (1W), conversion module 20 comprises two standard width units (2W), three integral modules 10 comprise three standard width units (3W), etc. Fukui, however, fails to provide any disclosure of a receptacle module configured to consist of only four fiber optic plug receiving receptacle portions in a standard one width (1W) unit, as stated in independent 118. Further, Fukai fails to provide any disclosure of a modular 2W cassette configured to consist of only eight fiber optic plug receiving

receptacle portions, a modular 3W cassette configured to consist of only twelve fiber optic plug receiving receptacle portions, a modular 4W cassette configured to consist of only sixteen fiber optic plug receiving receptacle portions, and a modular 6W cassette configured to consist of only twenty-four fiber optic plug receiving receptacle portions, as stated in independent claims 144, 180, and 232. Instead, Fukui discloses that each conversion module 10 includes two or more single-core optical connector adapters 13, which in turn includes eight or more fiber optic plug receiving portions. See, e.g., Fukui, col. 4, line 60 to col. 5, line 4. Indeed, as illustrated in FIGS. 1-5 of Fukui, the conversion module 10 consists of twelve fiber optic plug receiving receptacle portions and the conversion module 20 consists of twenty-four fiber optic plug receiving receptacle portions. A skilled artisan would thus readily recognize that conversion modules 10, 20 of Fukui cannot correspond to the claimed modular 2W cassette, modular 3W cassette, modular 4W cassette, and modular 6W cassette, respectively. These features are neither explicitly stated, nor necessarily present within the Fukui patent disclosure, as required by 35 U.S.C. § 102. Accordingly, Fukui cannot anticipate independent claims 118, 144, 180, and 232.

Moreover, Murray clearly fails to remedy the deficiencies of Fukui. For example, the Examiner relies upon Murray solely to allegedly disclose the existence of tray means configured to be removably secured to an elongate cable management bracket that includes a bracket width that fits in the standard one width (1W) unit, and the elongate cable management bracket including a cable management loop that is configured to be positioned in front of and to a side of an optic plug receiving receptacle portion of a modular cassette when the cable management loop is removably secured to the tray (see

Office Action at pages 42-43). Modifying the Fukui system with the teachings of Murray would thus admittedly fail to overcome the shortcomings of Fukui.

For at least these reasons, Fukui and Murray fail to disclose or render obvious each and every element recited in independent claims 118, 144, 180, and 232. In addition, claims 119-141, 143-177, 179-229, and 231-238, which all depend upon one of the independent claims, respectively, recite additional features that are neither disclosed nor suggested by each of the applied references, taken either alone or in combination. Since each of the dependent claims not only include the same limitations as independent claim 118, 144, 180, and 232, respectively, but also recite these additional limitations, they are allowable for at least the same reasons discussed above with respect to independent claims 118, 144, 180, and 232.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of all the pending claims 118-238. Should it be necessary to resolve any additional concerns and expedite the issuance of a Notice of Allowance, the Examiner is invited to contact Applicant's representative at 703.917.0000 x120.

Please grant any extension of time to the extent required to enter this response and charge any fees required to our Deposit Account No. 50-2961, and to credit any overpayment to such Account.

Respectfully submitted,

Signature: /jay a. stelacone/
Jay A. Stelacone
Reg. No. 42,168

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1951 Kidwell Drive
Suite 310
Tysons Corner, VA 22182
Phone: (703) 917-0000
Facsimile: (703) 997-4905

Dated: 28 March 2025



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NOTICE OF ALLOWANCE AND FEE(S) DUE

205307 7590 04/16/2025
Belden Modular Cassette Project
MH2/Finnegan
1951 Kidwell Drive, Suite 310
Tysons Corner, VA 22182

EXAMINER	
PEACE, RHONDA S	
ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 04/16/2025

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/328,431	06/02/2023	VINCENT PILON	0404.0016-CON4	5444

TITLE OF INVENTION: TRAY MEANS FOR PROVIDING A PLURALITY OF DIFFERENT MODULAR CASSETTE CONFIGURATIONS IN A FIBER OPTIC MANAGEMENT SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1290	\$0.00	\$0.00	\$1290	07/16/2025

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via the USPTO patent electronic filing system.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

205307 7590 04/16/2025
Belden Modular Cassette Project
MH2/Finnegan
1951 Kidwell Drive, Suite 310
Tysons Corner, VA 22182

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via the USPTO patent electronic filing system or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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18/328,431 06/02/2023 VINCENT PILON 0404.0016-CON4 5444

TITLE OF INVENTION: TRAY MEANS FOR PROVIDING A PLURALITY OF DIFFERENT MODULAR CASSETTE CONFIGURATIONS IN A FIBER OPTIC MANAGEMENT SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1290	\$0.00	\$0.00	\$1290	07/16/2025

EXAMINER	ART UNIT	CLASS-SUBCLASS
PEACE, RHONDA S	2874	385-135000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

1 _____

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required)

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via the USPTO patent electronic filing system ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/328,431	06/02/2023	VINCENT PILON	0404.0016-CON4	5444
205307	7590	04/16/2025	EXAMINER	
Belden Modular Cassette Project			PEACE, RHONDA S	
MH2/Finnegan			ART UNIT	
1951 Kidwell Drive, Suite 310			PAPER NUMBER	
Tysons Corner, VA 22182			2874	
DATE MAILED: 04/16/2025				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013).

<https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf>

Routine uses of the information in this record may include disclosure to:

- 1) law enforcement, in the event that the system of records indicates a violation or potential violation of law;
- 2) a federal, state, local, or international agency, in response to its request;
- 3) a contractor of the USPTO having need for the information in order to perform a contract;
- 4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record;
- 5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record;
- 6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations;
- 7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals;
- 8) another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c));
- 9) the Office of Personnel Management (OPM) for personnel research purposes; and
- 10) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Notice of Allowability	Application No. 18/328,431	Applicant(s) PILON, VINCENT	
	Examiner R. PEACE	Art Unit 2874	AIA (FITF) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 3/28/25.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☒ The allowed claim(s) is/are See Continuation Sheet. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov**.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892) 2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date <u>4/7/25</u> . 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____. 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.	5. ☐ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____.
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/RHONDA S PEACE/ Primary Examiner, Art Unit 2874	
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Continuation of 3. The allowed claim(s) is/are: 118-137,139-171,173-225 and 227-238

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Election/Restrictions

This application is in condition for allowance except for the presence of claims 119, 138, 172, and 226 directed to Species and Sub-Species non-elected without traverse, see Applicant's arguments, page 29, filed 3/28/25. Accordingly, claims 119, 138, 172, and 226 have been cancelled.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 4/7/25 was filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Allowable Subject Matter

Claims 118-137, 139-171, 173-225, and 227-238 are allowed.

The following is an examiner's statement of reasons for allowance:

Re. Claims 118-137 and 139-143, the prior art does not disclose or reasonably suggest a tray for providing a plurality of different modular fiber optic cassette configurations in a standard U-space fiber optic management system, wherein the receptacle module is configured to *consist of only four* fiber optic plug receiving receptacle portions in a standard one width (1W) unit, in combination with the remaining limitations of the claims.

Re. Claims 144-171 and 173-179, the prior art does not disclose or reasonably suggest a tray for providing a plurality of different modular fiber optic cassette configurations in a standard U-space fiber optic management system, wherein the 2W cassette size *consists of only eight* fiber optic plug receiving receptacle portions, the 3W cassette size *consists of only twelve* fiber optic plug receiving receptacle portions, the 4W cassette size *consists of only sixteen* fiber optic plug receiving receptacle portions, and the 6W cassette size *consists of only twenty-four* fiber optic plug receiving receptacle portions, in combination with the remaining limitations of the claims.

Re. Claims 180-225 and 227-231, the prior art does not disclose or reasonably suggest a tray for providing a plurality of different modular fiber optic cassette configurations in a standard U-space fiber optic management system, wherein the 2W cassette size *consists of only eight* fiber optic plug receiving receptacle portions, the 3W cassette size *consists of only twelve* fiber optic plug receiving receptacle portions, the 4W cassette size *consists of only sixteen* fiber optic plug receiving receptacle portions, and the 6W cassette size *consists of only twenty-four* fiber optic plug receiving receptacle portions, in combination with the remaining limitations of the claims.

Re. Claims 232-238, the prior art does not disclose or reasonably suggest a tray for providing a plurality of different modular fiber optic cassette configurations in a standard U-space fiber optic management system, wherein the 2W cassette size *consists of only eight* fiber optic plug receiving receptacle portions, the 3W cassette size *consists of only twelve* fiber optic plug receiving receptacle portions, the 4W cassette size *consists of only sixteen* fiber optic plug receiving receptacle portions, and the 6W

cassette size *consists of only twenty-four* fiber optic plug receiving receptacle portions, in combination with the remaining limitations of the claims.

The most applicable prior art, Fukui et al. (US 10,101,551 B2), addressed in the Office Action mailed 9/29/24, fails to disclose or reasonably suggest the claimed invention, specifically those portions *highlighted* above in combination with the remaining limitations of the claims. Applicant's arguments filed 3/28/25 are persuasive.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the attached PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to R. PEACE whose telephone number is (571)272-8580. The examiner can normally be reached 9-5 pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Uyen-Chau Le can be reached on (571) 272-2397. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: <https://patentcenter.uspto.gov>. Visit <https://www.uspto.gov/patents/apply/patent-center> for more information about Patent Center and <https://www.uspto.gov/patents/docx> for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RHONDA S PEACE/
Primary Examiner, Art Unit 2874
4/10/25



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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/328,431	05/27/2025	12313896	0404.0016-CON4	5444

205307 7590 05/14/2025

Belden Modular Cassette Project
MH2/Finnegan
1951 Kidwell Drive, Suite 310
Tysons Corner, VA 22182

ISSUE NOTIFICATION

The projected patent number and issue date are specified above. The patent will issue electronically. The electronically issued patent is the official patent grant pursuant to 35 U.S.C. § 153. The patent may be accessed on or after the issue date through Patent Center at <https://patentcenter.uspto.gov/>. The patent will be available in both the public and the private sides of Patent Center. Further assistance in electronically accessing the patent, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-888-217-9197.

The USPTO is implementing electronic patent issuance with a transition period, during which period the USPTO will mail a ceremonial paper copy of the electronic patent grant to the correspondence address of record. Additional copies of the patent (i.e., certified and presentation copies) may be ordered for a fee from the USPTO's Certified Copy Center at <https://certifiedcopycenter.uspto.gov/index.html>. The Certified Copy Center may be reached at (800)972-6382.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Center (<https://patentcenter.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

INVENTOR(s) (Please see PATENT CENTER site <https://patentcenter.uspto.gov> for additional inventors):

VINCENT PILON, LACHINE, CANADA;

APPLICANT(s) (Please see PATENT CENTER site <https://patentcenter.uspto.gov> for additional applicants):

BELDEN CANADA ULC, SAINT-LAURENT, CANADA;

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