

Search query (3): [SP]: field[0001] the disclosure relates generally to fiber optic multiports, including multiports with optical splitters and more particularly to a device and method for sealing an optical splitter within a fiber optic multiport, which may be used in fiber optic networks.background[0002] as a result of the ever-increasing demand for broadband communications involving voice, video and data transmission, telecommunication and cable media service providers and/or operators have increasingly relied on fiber optics to provide large bandwidth telecommunication service to their subscribers. fiber optic solutions have become the main part of telecommunication networks. optical cables can transmit voice, data and video signals over very long distances at very high speed. because of this, developments in fiber optic telecommunication networks have consistently focused on extending the optical fiber closer to the subscriber to the point that currently the subscriber can be connected directly to the fiber optic network through fttx (fiber to the specific location "x") technology, including fth (fiber-to-the-home) technology, which provides an "all optical" communication network right to the subscribers at their homes. this deployment of optical fiber toward the subscriber is being driven by ever-increasing demand for more bandwidth, whether the optical fiber reaches all the way to the subscriber or not. nonetheless, as the fiber optic network advances toward the subscriber, the need to provide fiber optic equipment, in locations having conditions that are not the most conducive for placement and operation of such fiber optic equipment increases. this particularly applies to fiber optic equipment that performs distributed splitting of the optical signal.[0003] economically, it is generally more beneficial and cost effective to provide as limited a quantity of cabling and hardware as possible to adequately provide optical service to and meet the needs of the most users in the network. simply put, it is not cost effective for a service provider to run separate distribution cabling and hardware from the central office to each subscriber premises in the fiber optic network. inherent to succeeding in this objective, an optical signal transmitted by the service provider at the central office is split into multiple optical signals as it is transmitted downstream and distributed over the fiber optic network. this "distributed splitting" approach becomes physically more challenging the closer the fiber optic network gets to the subscriber premises. the challenges not only involve signal strength, but also physical difficulties in locating suitable places to install optical splitters. space limitations, environmental hazards, including weather, existing infrastructure installations, electrical communication facilities, for example, all factor into achieving the objective of advancing the fiber optic network to the subscriber premises.[0004] accordingly, as the fiber optic network advances closer to the subscriber, fiber optic devices, especially ones that provide optical signal splitting, must be sufficiently sealed against the environment and the ingress of any water or other contamination. typically, fiber optic devices are fully assembled at the factory with a potting material, such as a gel or epoxy, used to seal the interior of the fiber optic device. however, because the fiber optic devices have open areas and fiber entry points, it is necessary to encase the devices in a fixture or mold to avoid any potting material leakage until the potting material cures. this can be cumbersome, time consuming and expensive.[0005] consequently, there is an unresolved need for a device and method that allows for the efficient and cost effective sealing of multiports for use in hazardous or difficult environments or locations.[0006] no admission is made that any reference cited herein constitutes prior art. applicant expressly reserves the right to challenge the accuracy and pertinence of any cited documents.summary[0007] one embodiment of the disclosure relates to a fiber optic multiport comprising an enclosure defining an interior. the fiber optic multiport also comprises a first chamber defined by the interior, wherein the first chamber has an optical splitter with a plurality of splitter legs extended therefrom and optically connected to a plurality of optical fibers located therein, and wherein a potting material is disposed in the first chamber to physically secure the optical splitter, the plurality of splitter legs and the plurality of optical fibers in the first chamber. the fiber optic multiport also comprises a second chamber defined by the interior adjacent the first chamber. the fiber optic multiport also comprises a wall separating the first chamber from the second chamber, wherein the wall has a first face and a second face, and wherein the wall has a plurality of slots extended therethrough from the first face to the second face, and wherein the plurality of optical fibers route through the plurality of slots between the first chamber and the second chamber. the fiber optic multiport also comprises a blocking material positioned adjacent to the wall to retain the potting material in the first chamber.[0008] another embodiment of the disclosure relates to a fiber optic multiport comprising an enclosure having a base and a cover, and defining an interior. the fiber optic multiport also comprises a first chamber in the interior, wherein the first chamber has an optical splitter with a plurality of splitter legs extended therefrom and optically connected to a plurality of optical fibers located therein, and wherein a potting material is disposed in the first chamber to physically secure the optical splitter, the plurality of splitter legs and the plurality of optical fibers in the first chamber. the fiber optic multiport also comprises a second chamber in the interior adjacent the first chamber. the fiber optic multiport also comprises a wall separating the first chamber from the second chamber, wherein the wall has a first face and a second face, and wherein the wall has a plurality of slots extended therethrough from the first face to the second face. the fiber optic multiport also comprises a foam pad comprising a compressible material attached to the wall, wherein the foam pad has a plurality of slits with at least one slit of the plurality of slits aligned with at least one slot of the plurality of slots of the wall, and wherein an optical fiber passage between the first chamber and the second chamber is formed thereby. the fiber optic multiport also comprises a plurality of fiber organizers positioned in the second chamber and comprising a first end and a second end, wherein at least one of the plurality of fiber organizers receives at the first end at least one of the plurality of optical fibers extended between the first chamber and the second chamber through the optical fiber passage, and receives at the second end a fiber optic cable comprising the at least one of the plurality of optical fibers at the first end and wherein the plurality of fiber organizers presses against the foam pad for sealing the optical fiber passage in the wall and inhibiting ingress of the potting material into the second chamber.[0009] another embodiment of the disclosure relates to a fiber optic multiport. the fiber optic multiport comprises an enclosure defining an interior. the fiber optic multiport also comprises a first chamber positioned in the interior, wherein the first chamber has an optical splitter with a plurality of splitter legs extended therefrom and connected to a plurality of optical fibers located therein, and wherein potting material is disposed in the first chamber to physically secure the optical splitter, the plurality of splitter legs and the plurality of optical fibers in the first chamber. the fiber optic multiport also comprises a second chamber positioned in the interior adjacent the first chamber. the fiber optic multiport also comprises a wall separating the first chamber from the second chamber, wherein the wall has a first face and a second face, and wherein the wall has a plurality of slots extended therethrough from the first face to the second face, and wherein the plurality of optical fibers route through the plurality of slots between the first chamber and the second chamber. the fiber optic multiport also comprises a fiber organizer having a first end and a second end, wherein the fiber organizer is positioned in the second chamber and receives at the first end at least one of the plurality of optical fibers extended between the first chamber and the second chamber.[0010] yet another embodiment of the disclosure relates to a method of sealing a fiber optic multiport. the method comprises separating an interior of an enclosure of a multiport into a first chamber and a second chamber positioning a wall having a plurality of slots between the first chamber and the second chamber locating an optical splitter in the first chamber and extending optical fibers connected to the optical splitter through at least one of the plurality of slots to the second chamber fitting a fiber retainer over the optical splitter and the optical fibers in the first chamber positioning blocking material adjacent to the wall pressing against the blocking material to seal gaps in the wall disposing potting material over the fiber retainer, the optical splitter and the optical fibers in the first chamber to physically secure the optical splitter and the optical fibers in the first chamber and curing the potting material.[0011] additional features and advantages will be set forth in the detailed description which follows, and in part will be readily apparent to those skilled in the art from the de

Results: 3

1) Family number: 68580410 (US2018045905A)

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Title: DEVICE AND METHOD FOR SEALING MULTIPORT SPLITTERS

Abstract: A sealed multiport splitter device and method are disclosed. The fiber optic multiport comprises housing with an interior defining a first chamber and an adjacent second chamber. An optical splitter with a plurality of splitter legs connect to a plurality of optical fibers located in the first chamber. Potting material is disposed in the first chamber to physically secure the optical splitter, the splitter legs and the optical fibers. A wall having a first face and a second face separates the first chamber from the second chamber. The wall has a plurality of slots extended from the first face to the second face. The plurality of optical fibers route through the plurality of slots between the first chamber and the second chamber. A blocking material is adjacent to the wall to inhibit ingress of the potting material into the second chamber while the potting material is being cured.

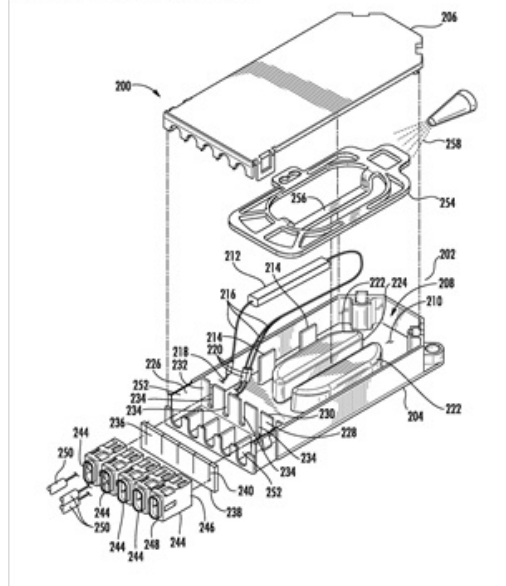
Classifications:

International (IPC 8-9): G02B6/38 G02B6/44 (Advanced/Invention)

International (IPC 1-7): G02B6/44

CPC: G02B6/4447 G02B6/4472 G02B6/4477 G02B6/3889 G02B6/3897 G02B6/4444

US: 1/1 385/86

**Family:**

Publication number	Publication date	Application number	Application date
AU2017311399 AA	20190221	AU20170311399	20170810
BR112019002535 A2	20190521	BR20191102535	20170810
CA3034708 AA	20190208	CA20173034708	20170810
CO20190002220 A2	20190318	CO20190002220	20190311
EP3497497 A1	20190619	EP20170754959	20170810
MX2019001565 A1	20190701	MX20190001565	20170810
US2018045905 AA	20180215	US20160235623	20160812
WO18031732 A1	20180215	WO2017US46230	20170810

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US20160235623 20160812 WO2017US46230 20170810

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

2) Family number: 54592597 (US2014219621A)

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Title: FIBER OPTIC MULTIPORT

Abstract: A fiber optic multiport includes a housing, a multi-fiber connector coupled to the housing, a plurality of optical fibers, extensions, and ports connected to distal ends of the extensions. The housing defines an enclosure and includes interlocking structure that seals off the enclosure from the environment. The plurality of optical fibers are connected to and extend from the multi-fiber connector into the enclosure. The extensions have proximal ends attached to the housing and the extensions project away from the housing. The extensions support sub-sets of the plurality of optical fibers, and the extensions are flexible such that the extensions may bend independently of one another.

Classifications:

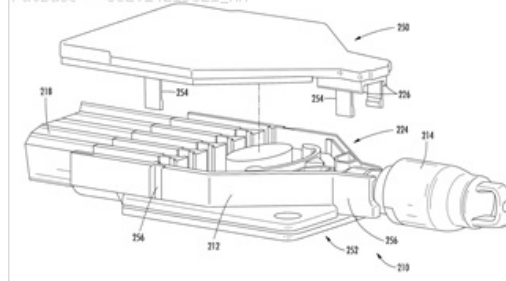
International (IPC 8-9): G02B6/36 G02B6/38 G02B6/42

G02B6/44 (Advanced/Invention)

CPC: G02B6/4475 G02B6/3885 G02B6/3897 G02B6/4451 G02B6/4472

G02B6/4439

US: 385/135

**Family:**

Publication number	Publication date	Application number	Application date
AU2013100900 AD	20130822	AU20130100900	20130702
AU2013206651 AA	20140821	AU20130206651	20130702
AU2013206651 BB	20170316	AU20130206651	20130702
AU2015100555 AD	20150611	AU20150100555	20150331
AU2015201667 AA	20150423	AU20150201667	20150331
BR112015018747 A2	20170718	BR20151118747	20140205
CA2919005 AA	20150805	CA20142919005	20140205
CL2015002196 A1	20160429	CL20150002196	20150806
CL57191 B	20190322	CL20150002196	20150806
CN105378529 A	20160302	CN201480019179	20140205
DE602014013780 D1	20171012	DE201460013780T	20140205
EP2954362 A1	20151216	EP20140707013	20140205
EP2954362 B1	20170830	EP20140707013	20140205
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ES1143384 UA	20150904	ES20150090017U	20140205
ES1143384 Y1	20151125	ES20150090017U	20140205
ES2643990 T3	20171127	ES20140707013T	20140205
MX2015010008 A1	20151012	MX20150010008	20140205
MX346538 B	20170324	MX20150010008	20140205
PE00962016 A1	20160303	PE20150001622	20140205
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PL2954362 T3	20180228	PL20140707013T	20140205
PT2954362 T	20171004	PT20140707013T	20140205
US2014219621 AA	20140807	US20130760669	20130206
US2015268434 AA	20150924	US20150731857	20150605
WO14123940 A1	20140814	WO2014US14764	20140205

Priority:

US20130760669 20130206 AU20130206651 20130702 EP20140707013 20140205
WO2014US14764 20140205 AU20150100555 20150331 AU20150201667 20150331
US20150731857 20150605

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

3) Family number: 52603762 (US2014166342A)

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Title: SEALING DEVICE FOR FEEDING THROUGH FILAMENTS

Abstract: Sealing device (100) for feeding through at least one filament (600), the sealing device (100) comprising a housing (200), said housing (200) comprises a seal block compartment (300) being laterally bounded by a front wall (310) and a back wall (320) being spaced apart and opposite to each other, and side walls (330, 340) being spaced apart and opposite to each other, said side walls (330, 340) joining the front wall (310) and the back wall (320), wherein the seal block compartment (300) has an open top face (350), wherein the front wall (310) and the back wall (320) each comprise several slots (370, 380, 470, 480) having an open end (375, 385, 475, 485) at the open top face (350) of the seal block compartment (300), wherein each of the slots (370, 380) in the front wall (310) corresponds to and is aligned with a slot in the back wall (320), and a seal block (500) being arranged in the seal block compartment (300), wherein the seal block (500) comprises slits (570, 580) being open sided towards the open sided top face (350) of the seal block compartment (300), each slit (570, 580) being aligned with one the slots (370, 380) in the front wall (310) and one of the slots (470, 480) in the back wall (320), these two slots (370, 470; 380, 480) being slots corresponding to each other, so that one can feed through a filament by sliding an intermediate part of the filament (600) from the open end (575, 585) into the slit (570, 580) and the corresponding slots (370, 470; 380, 480) of the front wall (310) and back wall (320).

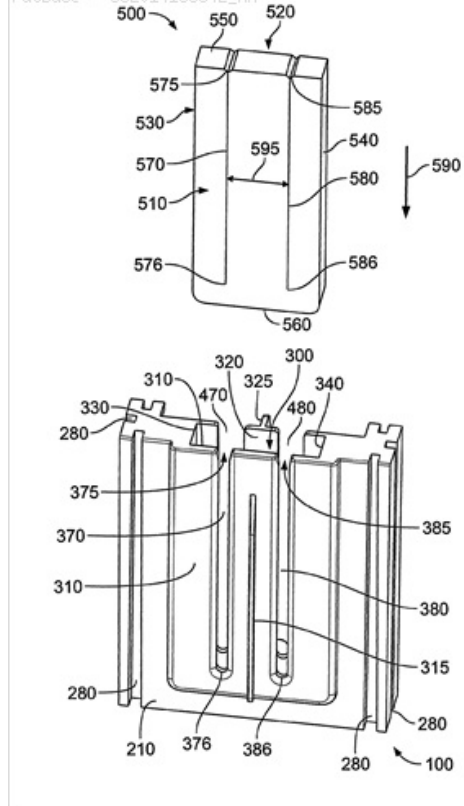
Classifications:

International (IPC 8-9): H02B H02B1/28 H02B1/30 H02B4/30 H02G
H02G3/08 H02G3/22 (Advanced/Invention);
H02B1/28 (Advanced/Non-invention);
H02B H02G (Subclass/Invention)

CPC: H02G3/22 H02B1/28 H02B1/305 H02G3/088

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CO6781521 A2	20131031	CO20130199965	20130823
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ZA201307352 A	20150325	ZA20130007352	20131002

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EP20110170622 20110620 WO2012EP61773 20120620 US20140128205 20140305
 US20190251718 20190118

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