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International Bureau



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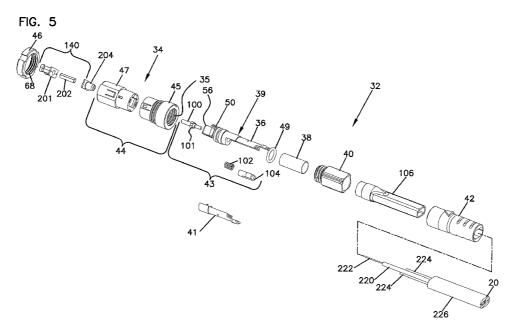
AO, AT, AU, AZ, BA, **BB**, BG, **BH**, **BR**, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, **DK**, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, **HR**, HU, **ID**, **IL**, IN, **IS**, **JP**, KE, KG, KM, KN, KR **KR**, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, **PH**, PL, PT, **RO**, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, **TJ**, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW

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(54) Title: HARDENED HBER OPTIC CONNECTOR



(57) Abstract: The present disclosure relates to a fiber optic connector for use with a fiber optic adapter. The fiber optic connector includes a connector housing having an end defining a plug portion. A ferrule assembly is mounted at least partially within the connector housing. The ferrule assembly includes a ferrule located at the plug portion of the connector housing. A sealing member is mounted about an exterior of the connector housing for providing a seal between the connector housing and the adapter. The fiber optic connector further includes first and second separate retaining mechanism for retaining the fiber optic connector within the fiber optic adapter.





## **INTERNATIONAL SEARCH REPORT**

International application No PCT/US2008/051782

A. CLASSIFICATION OF SUBJECT MATTER INV . G02B6/38										
According to	o International Patent Classification (IPC) or to both national classification	ication and IPC								
B. RELDS SEARCHED										
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	Citation of document, with indication, where appropriate, of the	Relevant to claim No.								
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Furt	ther documents are listed in the continuation of Box C	See patent family annex.								
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	European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk									
1	Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Wolf, Steffen	ı							

International application No. PCT/US2008/051782

# INTERNATIONAL SEARCH REPORT

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)
This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:
1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
Claims Nos because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additi onal sheet
As all required additional search fees were timely paid by the applicant, this International search report covers allsearchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search reportcovers only those claims for which fees were paid, specifically claims Nos.:
4. Y  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  See annex
Remark on Protest  The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.  The additional search fees were accompanied by the applicant's protest but the applicable protest in the invitation.  No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as fol lows:

1. claims: 1-16, 20, 22

Connector having a threaded and a latched retaining mechanism for retention in an adapter

2. claims: 18, 19

Connector having a housing comprising a main piece and a cover piece

3. claims: 17, 21

Connector having a housing with a truncated, tapered end

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2008/051782

				1017 002	2008/051/82
Patent document cited in search report		Publication date	Patent family member(s)	/	Publication date .
US 2006088248	Al	27-04-2006	WO 200604703	35 Al	04-05-2006
US 2005064752	Al	24-03-2005	NONE		
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