

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2019/101993

A. CLASSIFICATION OF SUBJECT MATTER		
G02B 6/44(2006.01)i		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
G02B		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
WPI; EPODOC; CNPAT; CNKI: 光纤, 光缆, 阻水元件, 微管, 加强, 增强, 椭圆, 修复; fiber, optical, cable, waterproof, water, block+, micro, pipe, reinforc+, oval, repair+		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 109143516 A (NANJING WASIN FUJIKURA OPTICAL COMMUNICATION LTD.) 04 January 2019 (2019-01-04) claims 1-9	1-9
Y	CN 203490399 U (FIBERHOME TELECOMMUNICATION TECHNOLOGIES CO., LTD.) 19 March 2014 (2014-03-19) description, paragraphs [0003]-[0026], and figure 1	1-5
Y	CN 106646799 A (FIBERHOME TELECOMMUNICATION TECHNOLOGIES CO., LTD.) 10 May 2017 (2017-05-10) description, paragraphs [0026]-[0038], and figure 1	1-5
A	CN 107329223 A (HENG TONG OPTIC-ELECTRIC CO., LTD.) 07 November 2017 (2017-11-07) entire document	1-9
A	CN 2456180 Y (YANGTZE OPTICAL FIBRE AND CABLE COMPANY LTD.) 24 October 2001 (2001-10-24) entire document	1-9
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
29 October 2019		21 November 2019
Name and mailing address of the ISA/CN		Authorized officer
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C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 103744152 A (CHANGSHU GULEITE MACHINERY PRODUCT DESIGN CO., LTD.) 23 April 2014 (2014-04-23) entire document	1-9
A	JP H0742310 A (TOKYO SEIKO ROPE MFG. CO., LTD.) 10 February 1995 (1995-02-10) entire document	1-9

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

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Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 109143516 A	04 January 2019	CN 109143516 B	22 February 2019
CN 203490399 U	19 March 2014	None	
CN 106646799 A	10 May 2017	None	
CN 107329223 A	07 November 2017	CN 207867083 U	14 September 2018
CN 2456180 Y	24 October 2001	None	
CN 103744152 A	23 April 2014	CN 104932071 A	23 September 2015
		CN 104932071 B	07 November 2017
		CN 104914540 A	16 September 2015
		CN 104914540 B	20 March 2018
		CN 103744152 B	20 January 2016
		CN 104898246 A	09 September 2015
		CN 104898246 B	08 December 2017
JP H0742310 A	10 February 1995	None	