

INTERNATIONAL SEARCH REPORT

International application No. PCT/JP2019/046128
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A. CLASSIFICATION OF SUBJECT MATTER
 Int. Cl. D02G3/04 (2006.01) i, H01L41/113 (2006.01) i, H01L41/193 (2006.01) i
 FI: D02G3/04, H01L41/113, H01L41/193

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)
 Int. Cl. D02G1/00-3/48, D02J1/00-13/00, H01L41/00-41/47

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Published examined utility model applications of Japan	1922-1996
Published unexamined utility model applications of Japan	1971-2020
Registered utility model specifications of Japan	1996-2020
Published registered utility model applications of Japan	1994-2020

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP 2000-303283 A (TORAY INDUSTRIES, INC.) 31 October 2000, claims, examples 1-5, paragraphs [0036], [0037]	1-7, 9 1-9
X Y	JP 2003-247143 A (UNITIKA TEXTILES LTD) 05 September 2003, claims, example 1, paragraph [0031]	1, 4-7, 9 1-9
X A	JP 2001-346463 A (YAMADA JITSUGYO KK) 18 December 2001, claims, example 1	1, 4-7 2, 3, 8, 9
X A	JP 2006-129741 A (TAKEBUCHI YORIITO KK) 25 May 2006, claims, examples	1, 4-7 2, 3, 8, 9

<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.	<input checked="" type="checkbox"/> See patent family annex.
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* Special categories of cited documents:	“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
“A” document defining the general state of the art which is not considered to be of particular relevance	“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
“E” earlier application or patent but published on or after the international filing date	“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
“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)	“&” document member of the same patent family
“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	

Date of the actual completion of the international search 24.01.2020	Date of mailing of the international search report 04.02.2020
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INTERNATIONAL SEARCH REPORTInternational application No.
PCT/JP2019/046128

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 2017/212836 A1 (MURATA MFG. CO., LTD.) 14 December 2017, claims, paragraphs [0015]-[0021], [0068]-[0070], fig. 1, 11, 12	1-9
A	JP 2000-239969 A (UNITIKA LTD.) 05 September 2000, claims	1-9
A	JP 2016-209148 A (TEIJIN LTD.) 15 December 2016, claims	1-9

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/JP2019/046128

Patent Documents referred to in the Report	Publication Date	Patent Family	Publication Date
JP 2000-303283 A	31.10.2000	(Family: none)	
JP 2003-247143 A	05.09.2003	(Family: none)	
JP 2001-346463 A	18.12.2001	(Family: none)	
JP 2006-129741 A	25.05.2006	(Family: none)	
WO 2017/212836 A1	14.12.2017	EP 3467169 A1 claims, paragraphs [0015]-[0021], [0067]-[0069], fig. 1, 11, 12 JP 2017-220658 A JP 2018-75348 A JP 2018-76629 A JP 2018-90950 A JP 2019-131948 A US 2019/0078239 A1 WO 2017/212523 A1 WO 2017/212666 A1 WO 2018/084054 A1 CN 109312500 A	
JP 2000-239969 A	05.09.2000	(Family: none)	
JP 2016-209148 A	15.12.2016	(Family: none)	