

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2019/046128

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

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:
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 "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
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Date of the actual completion of the international search
24.01.2020

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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

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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)	