

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/JP2019/045530

**A. CLASSIFICATION OF SUBJECT MATTER**

Int. Cl. B01J4/02 (2006.01) i, B65G53/04 (2006.01) i, H05F1/00 (2006.01) i,  
F24F6/12 (2006.01) i

FI: B01J4/02 G, B65G53/04 B, F24F6/12 101B, H05F1/00 C

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. B01J4/02, B65G53/04, H05F1/00, F24F6/12

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 A	JP 11-64858 A (NISSHIN FLOUR MILLING CO., LTD.) 05 March 1999, claims 1-5, paragraphs [0001], [0006]- [0010], [0014]-[0049], fig. 1-6, claims 1-5, paragraphs [0001], [0006]-[0010], [0014]-[0049], fig. 1-6	1, 3-4 2, 5-8
X A	JP 54-32876 A (SANYO KOKUSAKU PULP CO.) 10 March 1979, claim 1, page 1, lower left column, line 18 to page 3, lower left column, line 6, fig. 1-3, claim 1, page 1, lower left column, line 18 to page 3, lower left column, line 6, fig. 1-3	1, 3-4 2, 5-8

Further documents are listed in the continuation of Box C.

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

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“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

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“&” document member of the same patent family

Date of the actual completion of the international search  
04.02.2020

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10.02.2020

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International application No.  
PCT/JP2019/045530

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	JP 2001-341838 A (SHIN-ETSU CHEMICAL CO., LTD.) 11 December 2001, claims 1-2, paragraphs [0001], [0004]-[0029], fig. 1, claims 1-2, paragraphs [0001], [0004]-[0029], fig. 1	1, 3-4 2, 5-8
X A	JP 2001-139140 A (TOAGOSEI CO., LTD.) 22 May 2001, claims 1-2, paragraphs [0001], [0004], [0007], [0009]-[0012], [0019]-[0049], [0070], [0074], [0094]-[0097], fig. 1, claims 1-2, paragraphs [0001], [0004], [0007], [0009]-[0012], [0019]-[0049], [0070], [0074], [0094]-[0097], fig. 1	1, 3-4 2, 5-8
A	JP 10-22090 A (UNITEC KK) 23 January 1998, claim 1, paragraphs [0001], [0004]-[0020], fig. 1-4	1-8
A	JP 52-69291 A (FUJI PHOTO FILM CO., LTD.) 08 June 1977, claims, page 1, lower left column, lines 7-9, page 2, upper left column, line 5 to page 3, lower left column, line 1	1-8

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
PCT/JP2019/045530

Patent Documents referred to in the Report	Publication Date	Patent Family	Publication Date
JP 11-64858 A	05.03.1999	US 6063451 A claims 1-2, 5-6, column 1, lines 6-18, column 2, line 23 to column 4, line 2, column 5, line 8 to column 15, line 42, fig. 1-6 CN 1208868 A claim 1-5, page 4, lines 2-6, page 5, line 8 to page 6, line 17, page 7, line 11 to page 16, line 12, fig. 1-6	
JP 54-32876 A	10.03.1979	(Family: none)	
JP 2001-341838 A	11.12.2001	US 2001/0046420 A1 claims 1-2, paragraphs [0003]- [0040], fig. 1	
JP 2001-139140 A	22.05.2001	(Family: none)	
JP 10-22090 A	23.01.1998	(Family: none)	
JP 52-69291 A	08.06.1977	(Family: none)	