

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2020/039565

A. CLASSIFICATION OF SUBJECT MATTER

C04B 35/64(2006.01)i; B28B 1/30(2006.01)i; B33Y 10/00(2015.01)i; B33Y 70/00(2020.01)i; B33Y 80/00(2015.01)i; C04B 35/16(2006.01)i; C04B 35/653(2006.01)i

FI: C04B35/64; C04B35/16; C04B35/653; B28B1/30; B33Y10/00; B33Y70/00; B33Y80/00

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)

C04B35/64; B28B1/30; B33Y10/00; B33Y70/00; B33Y80/00; C04B35/16; C04B35/653

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.
P, X P, Y P, A	WO 2019/208570 A1 (CANON INC.) 31 October 2019 (2019-10-31) paragraphs [0022], [0037], [0048]-[0053], [0109]-[0110], [0113], [0151]-[0165], fig. 3	1-4, 7-26 5-21 27
P, Y	JP 2020-100141 A (CANON INC.) 02 July 2020 (2020-07-02) paragraphs [0007]-[0009], [0041], [0068]-[0073]	5-21
A	WO 2019/013334 A1 (CANON INC.) 17 January 2019 (2019-01-17) entire text, all drawings	1-27
A	JP 2013-501701 A (BEGO BREMER GOLDSCHLÄGEREI WILH. HERBST GMBH & CO. KG) 17 January 2013 (2013-01-17) entire text, all drawings	1-27
A	JP 2016-204244 A (TOTO LTD.) 08 December 2016 (2016-12-08) entire text, all drawings	1-27

<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 11 December 2020 (11.12.2020)	Date of mailing of the international search report 22 December 2020 (22.12.2020)
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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.
A	JP 62-113781 A (HITACHI METALS, LTD.) 25 May 1987 (1987-05-25) entire text, all drawings	1-27
A	JP 2001-17907 A (MINAMI, Tsutomu) 23 January 2001 (2001-01-23) entire text, all drawings	1-27

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application no.

PCT/JP2020/039565

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
WO 2019/208570 A1	31 Oct. 2019	JP 2019-188810 A	
JP 2020-100141 A	02 Jul. 2020	(Family: none)	
WO 2019/013334 A1	17 Jan. 2019	US 2020/0140340 A1 whole document, whole drawing	
		JP 2019-19051 A	
		EP 3636403 A	
		CN 110944314 A	
JP 2013-501701 A	17 Jan. 2013	US 2012/0237745 A1 whole document, whole drawing	
		WO 2011/018463 A1	
		EP 2292357 A1	
		CA 2770568 A1	
JP 2016-204244 A	08 Dec. 2016	US 2016/0083300 A1 whole document, whole drawing	
		EP 2998282 A1	
		CN 105439564 A	
		KR 10-2016-0033614 A	
JP 62-113781 A	25 May 1937	(Family: none)	
JP 2001-17907 A	23 Jan. 2001	(Family: none)	