

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2014/082038

A. CLASSIFICATION OF SUBJECT MATTER
E02F9/22(2006.01)i, F16D48/02(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)
E02F9/22, F16D48/02

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

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2015
Kokai Jitsuyo Shinan Koho	1971-2015	Toroku Jitsuyo Shinan Koho	1994-2015

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2013/115399 A1 (Hitachi Construction Machinery Co., Ltd.), 08 August 2013 (08.08.2013), entire text; all drawings & JP 2013-160116 A & US 2014/0379243 A & EP 2811139 A	1-6
A	WO 2011/074583 A1 (Hitachi Construction Machinery Co., Ltd.), 23 June 2011 (23.06.2011), entire text; all drawings & JP 2011-122708 A & US 2012/0296531 A1 & EP 2515006 A1 & CN 102656390 A & KR 10-2012-0117777 A	1-6

Further documents are listed in the continuation of Box C. See patent family annex.

* 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 16 March 2015 (16.03.15)	Date of mailing of the international search report 31 March 2015 (31.03.15)
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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 2011-63945 A (KCM Corp.), 31 March 2011 (31.03.2011), entire text; all drawings (Family: none)	1-6
A	JP 2008-248523 A (Komatsu Ltd.), 16 October 2008 (16.10.2008), entire text; all drawings (Family: none)	1-6
A	JP 10-88625 A (Komatsu Ltd.), 07 April 1998 (07.04.1998), entire text; all drawings & US 6247538 B1 & WO 1998/011305 A1 & AU 4220697 A	1-6