



SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:
EP 18 84 48 70

Classification of the application (IPC):
H01R 13/627, B61G 5/10

Technical fields searched (IPC):
B61G

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	JP 2009234571 A (YUTAKA SEISAKUSHO CO LTD) 15 October 2009 (2009-10-15) * paragraph [0014]; figures 2, 3 *	1-10
X	US 4284311 A (FORSTER HILMAR ET AL) 18 August 1981 (1981-08-18) * figure 1 *	1-10
X	US 2013196519 A1 (KRAUSE JENS [DE] ET AL) 01 August 2013 (2013-08-01) * figures 1, 2 *	1-10
X	GB 1273481 A (DRESSER IND [US]) 10 May 1972 (1972-05-10) * page 4, lines 70-86; figure 1 *	1-10
A	JP 2004149014 A (KAWASAKI HEAVY IND LTD) 27 May 2004 (2004-05-27) * figures 2, 4, 5 *	1
A	US 3678442 A (COPE GEOFFREY W ET AL) 18 July 1972 (1972-07-18) * figure 1 *	1
A	DE 2414384 A1 (BERGISCHE STAHLINDUSTRIE) 23 October 1975 (1975-10-23) * figures 1, 2 *	1

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

Place of search Munich	Date of completion of the search 26 October 2020	Examiner Denis, Marco
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CATEGORY OF CITED DOCUMENTS

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ANNEX TO SUPPLEMENTARY EUROPEAN SEARCH REPORT

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2009234571 A	15-10-2009	JP 4796171 B2 JP 2009234571 A	19-10-2011 15-10-2009
US 4284311 A	18-08-1981	AT 363992 B AU 531323 B2 BE 880529 A CA 1148121 A CH 645577 A5 DD 148038 A5 DE 2854962 A1 DK 544079 A ES 487094 A1 FR 2444599 A1 GB 2038746 A HU 179592 B IT 1126493 B NL 7908825 A PL 220423 A1 PT 70531 A SE 437500 B SU 990076 A3 US 4284311 A	10-09-1981 18-08-1983 01-04-1980 14-06-1983 15-10-1984 06-05-1981 10-07-1980 21-06-1980 16-09-1980 18-07-1980 30-07-1980 29-11-1982 21-05-1986 24-06-1980 08-09-1980 01-01-1980 04-03-1985 15-01-1983 18-08-1981
US 2013196519 A1	01-08-2013	CA 2810440 A1 CN 103108792 A DE 102010045742 A1 DK 2616304 T3 EP 2616304 A1 ES 2629848 T3 HU E035777 T2 PL 2616304 T3 RU 2013117436 A US 2013196519 A1 WO 2012034630 A1	22-03-2012 15-05-2013 22-03-2012 17-07-2017 24-07-2013 16-08-2017 28-11-2018 29-12-2017 27-10-2014 01-08-2013 22-03-2012
GB 1273481 A	10-05-1972	FR 2079453 A5 GB 1273481 A	12-11-1971 10-05-1972
JP 2004149014 A	27-05-2004	AT 508028 T CA 2446486 A1 EP 1415883 A1 JP 3745330 B2 JP 2004149014 A US 2004129664 A1	15-05-2011 30-04-2004 06-05-2004 15-02-2006 27-05-2004 08-07-2004
US 3678442 A	18-07-1972	NONE	



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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
DE 2414384	A1	23-10-1975	DE	2414384 A1	23-10-1975
			ES	435389 A1	01-12-1976
			IT	1029721 B	20-03-1979
			US	3941253 A	02-03-1976