



# SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:  
EP 16 88 54 10

## Classification of the application (IPC):

B21D 22/20, B21D 51/26, B21D 51/34, B23Q 1/38, B30B 1/14, B30B 1/26,  
F16C 29/02

## Technical fields searched (IPC):

F16C

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X Y	US 2015059429 A1 (BUTCHER GREGORY H [US] ET AL) 05 March 2015 (2015-03-05) * paragraph [0009] * * paragraph [0048] - paragraph [0062]; figures 5,11 *	1, 2, 11, 12 3-10
Y	US 2005147332 A1 (KOBAYASHI KAZUO [JP] ET AL) 07 July 2005 (2005-07-07) * paragraph [0048] - paragraph [0050]; figure 7 *	3-10
A	WO 2006125572 A1 (SCHAEFFLER KG [DE]; RUDY DIETMAR [DE]; BAUER WOLFGANG [DE]) 30 November 2006 (2006-11-30) * page 5, line 30 - page 8, line 17; figures 1,2 *	3-10
A	US 4653408 A (NAGASHIMA MITSUYOSHI [JP] ET AL) 31 March 1987 (1987-03-31) * line 37, paragraph 6 - line 5, paragraph 7; figure 9 *	3-10

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 30 September 2019	Examiner Vesterholm, Mika
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## CATEGORY OF CITED DOCUMENTS

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|---|--|
| X: particularly relevant if taken alone   | P: intermediate document   |
| Y: particularly relevant if combined with another document of the same category | T: theory or principle underlying the invention                        |
| A: technological background   | E: earlier patent document, but published on, or after the filing date |
| O: non-written disclosure   | D: document cited in the application                                   |
| & : member of the same patent family, corresponding document                    | L: document cited for other reasons                                    |

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# ANNEX TO SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:  
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on 30-09-2019  
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