



SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:
EP 19 84 49 34

Classification of the application (IPC):
B21K 21/08, B21K 1/60, F16B 19/04, F16B 19/08

Technical fields searched (IPC):
B21K, F16B

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	WO 03081058 A1 (LEISTNER VOLKMAR [CA]) 02 October 2003 (2003-10-02) * page 6, paragraph 5 - page 7, paragraph 3 * * page 9, paragraph 2; figures 1-6 *	1-6
X	US 2003152442 A1 (CURLEY WILLIAM J [US] ET AL) 14 August 2003 (2003-08-14) * paragraph [0025] - paragraph [0030] * * paragraph [0033] - paragraph [0035]; figures 1-4 *	1-6
X A	US 7344345 B2 (SOUTHCO [US]) 18 March 2008 (2008-03-18) * column 4, line 40 - line 62; figures 2,3 *	5, 6 1-4
X A	US 5294223 A (PHILLIPS II RONALD W [US]) 15 March 1994 (1994-03-15) * column 3, line 56 - column 4, line 19; figures 2,3 *	5, 6 1-4
X A	EP 3073131 A1 (NEWFREY LLC [US]) 28 September 2016 (2016-09-28) * paragraph [0083] - paragraph [0093]; figures 8-14 *	5, 6 1, 4

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 14 December 2021	Examiner Ritter, Florian
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CATEGORY OF CITED DOCUMENTS

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

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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 14-12-2021
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