



SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:
EP 16 84 31 97

Classification of the application (IPC):
E21B 23/01, E21B 23/02, E21B 33/04, E21B 43/10

Technical fields searched (IPC):
E21B

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	US 2005023866 A1 (MATUSEK MICHAEL J [US] ET AL)	1
Y	03 February 2005 (2005-02-03) * paragraphs [0029], [0030], [0034], [0037]; figures 1B, 1C,3B,4B,4C,5B *	1
Y	US 4836288 A (WESTER RANDY J [US]) 06 June 1989 (1989-06-06) * column 4, lines 23-40; figures 2,4 *	1
A	US 3924678 A (AHLSTONE ARTHUR G) 09 December 1975 (1975-12-09) * column 4, lines 23-40; figures 1-4 *	1-15

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 29 March 2019	Examiner Georgescu, Mihnea
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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 29-03-2019
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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2005023866	A1	03-02-2005	NONE	
US 4836288	A	06-06-1989	NONE	
US 3924678	A	09-12-1975	NONE	