



SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application number:
EP 17 82 46 57

Classification of the application (IPC):
F41H 13/00, F42B 12/66, F41A 21/32, F41B 15/10, F42B 7/04

Technical fields searched (IPC):
F41B, F41H

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	US 8857305 B1 (TSENG JUI-FU [TW]) 14 October 2014 (2014-10-14)	1-13, 15
Y	* column 2, line 31 - column 3, line 41; figures 1-7 *	14
A	US 6381894 B1 (MURPHY JOHN P [US]) 07 May 2002 (2002-05-07)	1-15
	* column 2, line 51 - column 4, line 62; figures 1,2 *	
Y	US 2012170167 A1 (BEECHEY THOMAS W [US] ET AL) 05 July 2012 (2012-07-05)	14
	* paragraphs [0035], [0057], [0087]; figures 5,6,8 *	
A	US 3803463 A (COVER J) 09 April 1974 (1974-04-09)	1-15
	* column 8, line 20 - line 51; figures 10,11 *	

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 The Hague	Date of completion of the search 24 October 2019	Examiner Seide, Stephan
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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 24-10-2019
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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 8857305	B1	14-10-2014	NONE		
US 6381894	B1	07-05-2002	NONE		
US 2012170167	A1	05-07-2012	US	2012170167 A1	05-07-2012
			US	2014293499 A1	02-10-2014
			US	2016010957 A1	14-01-2016
US 3803463	A	09-04-1974	NONE		