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(54) **Winch apparatus**

(57) Winching apparatus provided on a vehicle, comprising a winch (10), a winch cable (18) and a cable path comprising a first pulley (14) mounted about a fixed pivot and a second pulley (15), the winch cable being passed partially around the first pulley and the second

pulley, so that the return angle of the cable to the winch remains constant regardless of the varying angle of the cable past the second pulley as a vehicle is winched in. The second pulley may be mounted to be movable sideways, to accommodate vehicles whose damage tends to cause them to move sideways during winching.

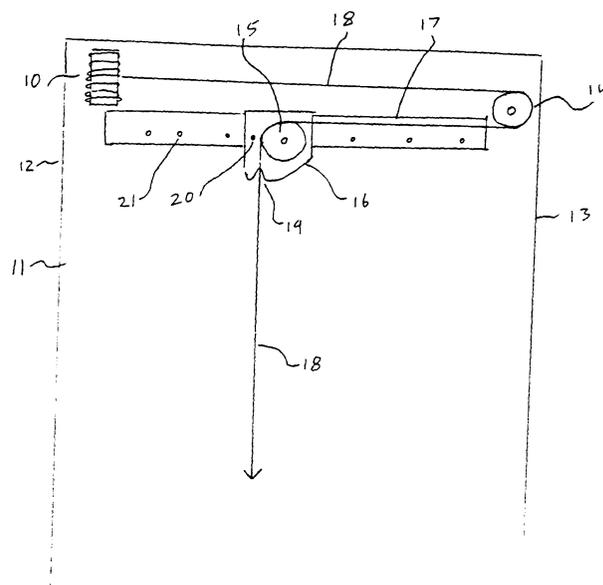


FIG 2



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EUROPEAN SEARCH REPORT

Application Number
EP 98 30 3456

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	FR 2 474 470 A (P.P.M.) 31 July 1981	1	B66D1/36
Y	* page 6, line 1-21; figures 1-4 *	2,3,6	B66D1/00
Y	US 1 457 947 A (STANBROUGH) 5 June 1923 * the whole document *	2,3	
Y	US 4 946 333 A (BOATWRIGHT) 7 August 1990 * abstract; figures 1-4 *	6	
X	US 2 473 628 A (ALLISON) 21 June 1949	1	
Y	* column 4, line 29 - column 5, line 74 *	2	
Y	US 4 062 461 A (VINCENT) 13 December 1977 * the whole document *	2	
A	US 5 509 639 A (ELLIS) 23 April 1996		
A	DE 85 25 623 U (ALBERSINGER) 31 October 1985		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B66D
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		13 April 1999	Van den Berghe, E
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 98 30 3456

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
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13-04-1999

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
FR 2474470	A	31-07-1981	NONE	
US 1457947	A	05-06-1923	NONE	
US 4946333	A	07-08-1990	NONE	
US 2473628	A	21-06-1949	NONE	
US 4062461	A	13-12-1977	NONE	
US 5509639	A	23-04-1996	NONE	
DE 8525623	U	31-10-1985	NONE	