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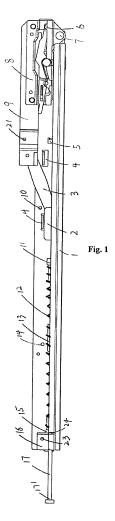
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(54) Servo-lifting device

(57) The invention discloses a servo-lifting device that can be used for windows. It comprises a lifting arm with one free end and the other end hinged to the gliding element, characterized in that a gliding element is placed on a rail in order to be able to slide; a rod is connected at one end with the gliding element, further comprising a lifting spring with one end fixed relative to the rod and the other end fixed relative to the rail. This type of the servo-lifting device can keep the window stationary at any position of the open range and is suitable for different slope roofs. It is simply structured, conveniently mounted and low cost. Other than used in a roofwindow, it can be used in other types of window, door or other field.



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EUROPEAN SEARCH REPORT

Application Number EP 04 38 8084

O-1-	Citation of document with in	ndication, where appropriate,	Relevar	nt CLASSIFICATION OF THE	
Category	of relevant pass		to claim		
Х	US 5 291 634 A (ZAN	IETTI AUGUSTO [IT])	1-3,13		
Υ	8 March 1994 (1994- * column 3, line 36 * figure 2 *	5 - column 4, line 13 *	4,11	E04D13/035 E05F1/10	
D,X	JENSEN JAN FAHLEN [TUSSEN KANN IND AS [DK]; [DK]; KORNERUP KLAUS	; 1,9,10 13),	
Υ	[DK) 15 June 1995 (* page 3, line 1 - * figures 1,2 *		4		
Υ	US 3 950 819 A (LIT 20 April 1976 (1976 * column 2, line 18 * figure 4 *	5-04-20)	11		
А	EP 0 874 103 A (DOE GMBH [DE]) 28 Octob * page 8, line 11 - * figure 5 *	ERKEN TAGESLICHTSYSTEME per 1998 (1998-10-28) · line 40 *	1		
	•			TECHNICAL FIELDS SEARCHED (IPC)	
				E05F	
				E04D	
	The present search report has	been drawn up for all claims			
Place of search		Date of completion of the search	<u> </u>	Examiner	
The Hague		17 December 2008	3 V	/an Kessel, Jeroen	
C	ATEGORY OF CITED DOCUMENTS	T : theory or princip E : earlier patent do			
Y : part docu	icularly relevant if taken alone icularly relevant if combined with anot ument of the same category	after the filing da her D : document cited L : document cited	ate in the applicat for other reaso	tion ons	
A : tech	nological background				

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

EP 04 38 8084

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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

17-12-2008

WO 9516097 A 15-06-1995 AT 154411 T 15-06-19 AU 1271695 A 27-06-19 CN 1137306 A 04-12-19 CZ 9601665 A3 13-11-19 DE 69403814 D1 17-07-19 DE 69403814 T2 22-01-19 DK 138393 A 11-06-19 EP 0733146 A1 25-09-19 ES 2105881 T3 16-10-19 HU 75427 A2 28-05-19 JP 3510259 B2 22-03-20 JP 9506401 T 24-06-19 PL 314871 A1 30-09-19 RU 2126481 C1 20-02-19 SK 71296 A3 09-04-19 US 3950819 A 20-04-1976 GB 1479820 A 13-07-19 US 3950819 A 20-04-1976 GB 1479820 A 25-08-19 NL 7514390 A 20-07-19	Patent document cited in search report		Publication date		Patent family member(s)	Publication date
AU 1271695 A 27-06-19 CN 1137306 A 04-12-19 CZ 9601665 A3 13-11-19 DE 69403814 D1 17-07-19 DE 69403814 T2 22-01-19 DK 138393 A 11-06-19 EP 0733146 A1 25-09-19 ES 2105881 T3 16-10-19 HU 75427 A2 28-05-19 JP 3510259 B2 22-03-20 JP 9506401 T 24-06-19 PL 314871 A1 30-09-19 RU 2126481 C1 20-02-19 SK 71296 A3 09-04-19 US 3950819 A 20-04-1976 GB 1479820 A 13-07-19 JP 51096675 A 25-08-19 NL 7514390 A 20-07-19	US 5291634	Α	08-03-1994	IT	1257777 В	13-02-199
JP 51096675 A 25-08-19 NL 7514390 A 20-07-19	WO 9516097	А	15-06-1995	AU CN CZ DE DK EP ES HU JP PL RU SK	1271695 A 1137306 A 9601665 A3 69403814 D1 69403814 T2 138393 A 0733146 A1 2105881 T3 75427 A2 3510259 B2 9506401 T 314871 A1 2126481 C1 71296 A3	15-06-199 27-06-199 04-12-199 13-11-199 17-07-199 22-01-199 25-09-199 26-10-199 28-05-199 22-03-200 24-06-199 30-09-199 20-02-199 09-04-199 25-11-199
EP 0874103 A 28-10-1998 DE 19717193 A1 05-11-19	US 3950819	Α	20-04-1976	JΡ	51096675 A	13-07-19 25-08-19 20-07-19
	EP 0874103	 А	28-10-1998	DE	19717193 A1	05-11-19
	EP 0874103	A	28-10-1998	NL 	7514390 A	20-07-19

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82