(11) **EP 0 942 137 A3** 

(12)

## **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3: 01.12.2004 Bulletin 2004/49

(43) Date of publication A2:15.09.1999 Bulletin 1999/37

(21) Application number: 99610017.8

(22) Date of filing: 05.03.1999

(51) Int CI.<sup>7</sup>: **E05D 15/30**, E05D 15/44, E06B 3/50, E05D 3/06, E05D 11/08

(84) Designated Contracting States:

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

**Designated Extension States:** 

AL LT LV MK RO SI

(30) Priority: 09.03.1998 DK 32098

(71) Applicant: VKR Holding A/S 2860 Soeborg (DK)

(72) Inventors:

- Jepsen, Lars Houmann DK-6800 Varde (DK)
- Smedegaard, Kaj DK-6950 RINGKOBING (DK)
- (74) Representative: Raffnsöe, Knud Rosenstand et al Internationalt Patent-Bureau,
   23 Höje Taastrup Boulevard
   2630 Taastrup (DK)

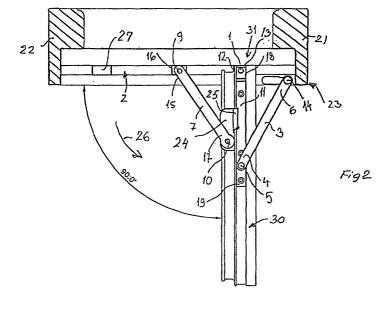
## (54) Hinge assembly for a reversible window or door

(57) In a reversible window or door a sash is disposed for displaceable and turning motion with respect to said main frame to permit the sash to be moved between a closed position with respect to the main frame through open positions towards a reversed or nearly reversed position.

Opposed sash members (30) are connected with opposed main frame members (31) by means of a hinge assembly (40) comprising a guide member (1) secured at a sash corner (13) for displacement with respect to the main frame, a first arm (3) pivotally connected with

a main frame corner (23) and with the sash member (30) remote from the sash corner (13), and a second arm (7) displaceably and pivotally connected at one end (15) with the main frame member (31) and pivotally connected at the other end (17) with the sash member (30) remote from the sash corner (13).

The guide pin (1) and first and second arms (3, 7) are interconnected in a unitary hinge structure (40) by means of a third arm (11) secured to the sash member (30) and friction means is integrated in the pivotal connection (10) of the second arm (7) with the third arm (11).





## **EUROPEAN SEARCH REPORT**

Application Number

EP 99 61 0017

Category	Citation of document with indication of relevant passages		Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
D,Y	US 1 106 791 A (EKLUND 11 August 1914 (1914-0 * the whole document *	) 8-11)	1,5	E05D15/30 E05D15/44 E06B3/50 E05D3/06
Y	US 1 648 331 A (SOULE 8 November 1927 (1927- * page 1, line 38 - li * page 2, line 37 - li * figures *	11-08) ne 46 *	1,5	E05D11/08
Y	US 4 226 002 A (DAVIS 7 October 1980 (1980-1 * column 2, line 24 - * column 8, line 18 - * figures *	0-07) line 26 *	1,5	
				TECHNICAL FIELDS SEARCHED (Int.CI.6)
				E05D
	The present search report has been	drawn up for all claims		
	Place of search  The Hague	Date of completion of the sea 11 October 20	1	Examiner n Kessel, J
X : parl Y : parl doc	ATEGORY OF CITED DOCUMENTS  icularly relevant if taken alone icularly relevant if combined with another ument of the same category	T : theory or E : earlier pat after the fi D : document L : document	principle underlying the lent document, but put ling date cited in the applicatio cited for other reasons	e invention olished on, or n
A : technological background O : non-written disclosure P : intermediate document			of the same patent fam	ily, corresponding

2

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

EP 99 61 0017

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.

11-10-2004

Patent document cited in search report	Publication date	Patent family member(s)	Publicatio date
US 1106791	A	NONE	
US 1648331	A 08-11-1927	NONE	
	A 07-10-1980	NZ 185308 A NZ 185769 A AU 519016 B2 AU 4028078 A BR 7806477 A CA 1112405 A1 DE 2861578 D1 DK 432278 A EP 0001487 A1 EP 0024491 A1 HK 33384 A IE 48170 B1 IT 1099658 B JP 1273439 C JP 54058932 A JP 5904994 B MY 7185 A NO 783306 A ,B, SG 76583 G ZA 7805485 A MX 148909 A	29-05-1 29-05-1 05-11-1 03-04-1 15-05-1 17-11-1 11-03-1 31-03-1 18-04-1 11-03-1 27-04-1 17-10-1 28-09-1 11-07-1 12-05-1 05-12-1 31-12-1 02-04-1 15-02-1 26-09-1 30-06-1