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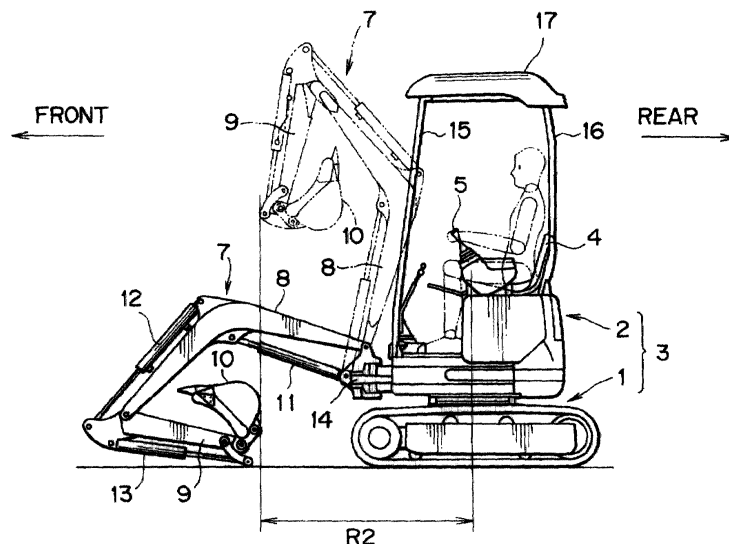
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(54) **Hydraulic excavator**

(57) There are provided a excavator body, a cabin provided on the upper surface, a work attachment mounted on the front part of said excavator body, and railings and roof supports forward of the cabin and rearward of a boom constituting the work attachment, the boom being arranged not to interfere with the roof sup-

ports in the whole rising and falling operating range over the whole swing operating range. Thereby, the maximum stand-up angle of the boom is enlarged to a specification angle, and the minimum rotating radius of the upper construction body including the work attachment is reduced to secure necessary railing function, enabling installation of a roof naturally in a minimum space.

FIG. 1



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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.7)
X	GB 2 184 419 A (KUBOTA LTD) 24 June 1987 (1987-06-24) * the whole document *	1,2	E02F9/08 E02F9/16
A	US 3 963 131 A (DIMMER DONALD J) 15 June 1976 (1976-06-15) * column 3, line 48 - column 4, line 22; figure 1 *	1,2	
A	US 4 728 251 A (TAKASHIMA AKIRA ET AL) 1 March 1988 (1988-03-01)		
A	PATENT ABSTRACTS OF JAPAN vol. 018, no. 579 (M-1698), 7 November 1994 (1994-11-07) -& JP 06 212667 A (YANMAR DIESEL ENGINE CO LTD;OTHERS: 01), 2 August 1994 (1994-08-02) * abstract *		
A	PATENT ABSTRACTS OF JAPAN vol. 017, no. 500 (M-1477), 9 September 1993 (1993-09-09) -& JP 05 125743 A (YANMAR DIESEL ENGINE CO LTD;OTHERS: 01), 21 May 1993 (1993-05-21) * abstract *		TECHNICAL FIELDS SEARCHED (Int.Cl.7) E02F
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 6 February 2002	Examiner Laurer, M
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 00 12 1772

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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06-02-2002

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
GB 2184419	A	24-06-1987	JP	1745469 C	25-03-1993
			JP	4028053 B	13-05-1992
			JP	62148725 A	02-07-1987
			DE	3638423 A1	02-07-1987
			FR	2592076 A1	26-06-1987
			KR	9508727 B1	04-08-1995
			NL	8602126 A	16-07-1987

US 3963131	A	15-06-1976	NONE		

US 4728251	A	01-03-1988	JP	1792270 C	14-10-1993
			JP	4075324 B	30-11-1992
			JP	62202130 A	05-09-1987
			CS	8701137 A2	14-11-1989
			DE	3705883 A1	03-09-1987
			FR	2595107 A1	04-09-1987
			GB	2188030 A ,B	23-09-1987
			KR	9109280 B1	08-11-1991

JP 06212667	A	02-08-1994	JP	2812417 B2	22-10-1998

JP 05125743	A	21-05-1993	JP	2895284 B2	24-05-1999
