

(19)



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(11)

EP 1 046 610 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
30.11.2005 Bulletin 2005/48

(51) Int Cl.7: **B66F 9/22, F15B 13/02**

(43) Date of publication A2:
25.10.2000 Bulletin 2000/43

(21) Application number: **00850068.8**

(22) Date of filing: **18.04.2000**

(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

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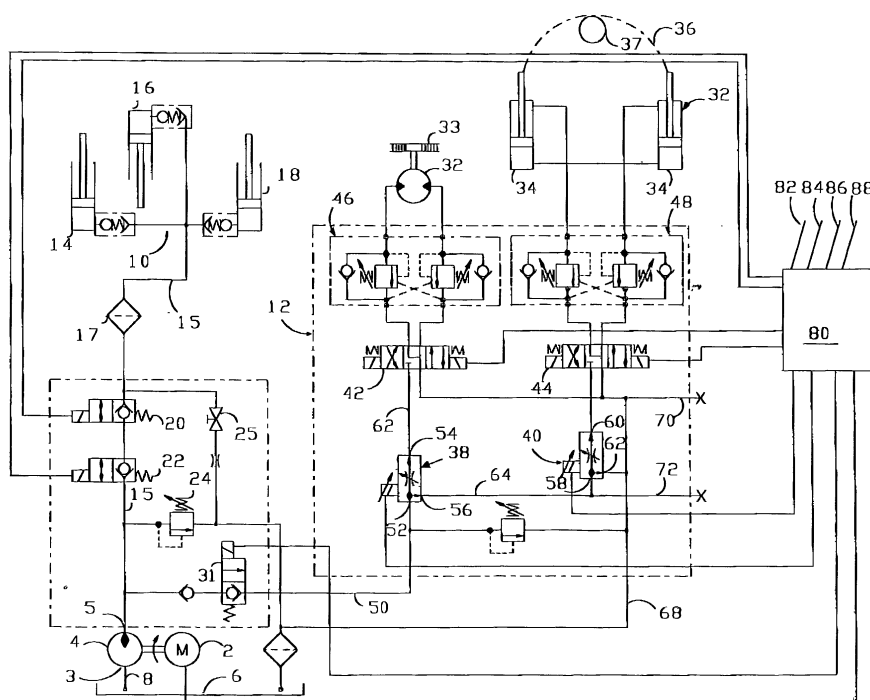
(30) Priority: **20.04.1999 SE 9901408**

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(54) Device and method for movement of a load carrier at an industrial truck

(57) Device and method for movement of load carrying means of an industrial truck, in particular the pivot and lateral movement of a swing reach fork means. Hydraulic consumers (30, 32) provide the movements. A proportional valve (38, 40) is arranged in front each hydraulic consumer. The proportional flow valve (40) of the pivot movement has its inlet (58) connected to the outlet

(56) of the other. At lateral movement the motor speed is controlled and the proportional flow valve (38) is held open. At pivot movement or simultaneous movement of both the motor speed is set so that the total flow somewhat surpasses a maximum value at the same time as the proportional flow valves (38, 40) are controlled to desired primary flow.



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EUROPEAN SEARCH REPORT

Application Number
EP 00 85 0068

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	DE 298 02 498 U1 (HEILMEIER & WEINLEIN FABRIK FUER OEL-HYDRAULIK GMBH & CO KG, 81673 MUE) 16 April 1998 (1998-04-16)	1,2	B66F9/22 F15B13/02
Y	* page 6 - page 7; figure 3 *	3,6	
Y	----- US 3 911 942 A (BECKER ET AL) 14 October 1975 (1975-10-14) * figures *	3,6	
A	----- GB 2 111 250 A (ROBERT * BOSCH GMBH) 29 June 1983 (1983-06-29) * the whole document *		
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B66F F15B E02F
<p>The present search report has been drawn up for all claims</p>			
Place of search		Date of completion of the search	Examiner
Munich		2 August 2005	Laurer, M
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p> <p>& : member of the same patent family, corresponding document</p>			

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-3, 6



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LACK OF UNITY OF INVENTION
SHEET B

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-3,6

directed to a device for the movement of load carrying means comprising as potential special technical features: Load holding valves arranged between the proportional flow valves and the associated consumer;

1.1. claim: 3

directed to a device for the movement of load carrying means comprising as special technical features: The first hydraulic consumer is a hydraulic motor, the second hydraulic consumer are two cylinders with a chain drive;

1.2. claim: 6

directed to a device for the movement of load carrying means comprising as special technical features: Additional consumers arranged downstream the second proportional flow valve return outlet;

2. claim: 4

directed to a device for the movement of load carrying means comprising as potential special technical features: Lifting cylinders connected to the hydraulic circuit with pump/motor means for regenerative feeding to a battery;

3. claims: 5,7-12

directed to a device for the movement of load carrying means and method comprising as potential special technical features: An electronic control unit with different controls which control the proportional flow valves;

Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.

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

EP 00 85 0068

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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02-08-2005

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