



(12) EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
05.06.1996 Bulletin 1996/23

(51) Int. Cl.<sup>6</sup>: B66F 9/075

(43) Date of publication A2:  
22.05.1996 Bulletin 1996/21

(21) Application number: 95119390.3

(22) Date of filing: 18.05.1993

(84) Designated Contracting States:  
DE FR GB

(62) Application number of the earlier application in  
accordance with Art. 76 EPC: 93108095.6

(71) Applicant: NIPPON YUSOKI CO.,LTD  
Nagaokakyo-shi Kyoto (JP)

(72) Inventors:  
• Hirooka, Shigeru  
Nagaokakyo-shi, Kyoto (JP)

• Katanaya, Ikuya  
Nara-shi, Nara (JP)  
• Orita, Koji  
Otokuni-gun, Kyoto (JP)  
• Tanaka, Shinobu  
Kyoto-shi, Kyoto (JP)

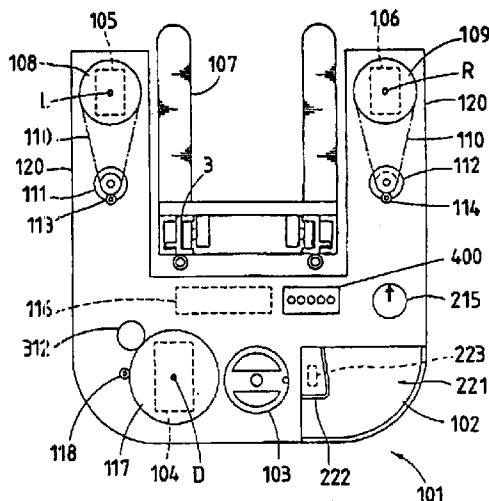
(74) Representative: Grünecker, Kinkeldey,  
Stockmair & Schwanhäusser  
Anwaltssozietät  
Maximilianstrasse 58  
80538 München (DE)

(54) Reach forklift

(57) A reach forklift comprises: a forklift body; left and right straddle arms; a pair of load wheels supported in a steerable manner in the vicinity of front ends of the left and right straddle arms, respectively; driving means for steering the load wheels, the load wheels and the driving means being housed in the straddle arms; a drive wheel disposed in a rear portion of the forklift body; and a steering wheel for steering the drive wheel; steering angle detecting means for detecting steering angles of the left and right load wheels and the drive wheel; a con-

trol device (116) for, in a first mode, determining a steering angle ( $\theta_L, \theta_R$ ) of one of said load wheels (105, 106) by multiplying a steering angle ( $\theta_D$ ) of said drive wheel (104) by a predetermined steering angle gain ( $G_L, G_R$ ), for calculating a turning centre from a geometric relationship between said drive wheel (104) and said one load wheel, and for controlling the steering so that an extension line ( $H_R, H_L$ ) of the rotation axis of the other load wheel passes through said turning centre.

FIG. 12





European Patent  
Office

# EUROPEAN SEARCH REPORT

Application Number  
EP 95 11 9390

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.5)
A	US-A-5 014 802 (KNOLL JEFFREY G ET AL) 14 May 1991 * abstract; figures * ---	1,3,4	B66F9/075
A	EP-A-0 512 591 (GEN MOTORS CORP) 11 November 1992 * abstract; figures * ---	1,3,4	
A	DE-A-39 11 453 (MAZDA MOTOR) 26 October 1989 * abstract; figures * ---	1,3,4	
A	DE-A-39 42 494 (FUJI HEAVY IND LTD) 5 July 1990 * abstract; figures * ---	1,3,4	
A	GB-A-2 232 941 (FUJI HEAVY IND LTD) 2 January 1991 * abstract; figures * ---	1,3,4	
A	PATENT ABSTRACTS OF JAPAN vol. 16 no. 135 (M-1230) ,6 April 1992 & JP-A-03 295768 (NIPPON YUSOKI CO LTD) 26 December 1991, * abstract; figures * -----	6	<b>TECHNICAL FIELDS SEARCHED (Int.Cl.5)</b>  B66F B62D
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>16 February 1996</b>	Examiner <b>Guthmuller, J</b>
<b>CATEGORY OF CITED DOCUMENTS</b> 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			

EPO FORM 1503 03.82 (P04C01)