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(30) Priority: **29.08.2006 US 511502**

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(54) **Load control device for a crane**

(57) A control device and system for controlling a suspended load of a container crane with a trolley (21), a spreader (15) and load lines arranged in a four point suspension (4a-4d) for lifting a load and an optical sensor (5) for sensing a deflection position of an orthogonal axis

(X,Y,V) of a container (20) suspended under the spreader. Two or more actuators (16-19) are arranged attached to at least one load for moving at least one said suspension point closer to or farther away from an imaginary centre line (X_L, Y_W, V_H) by shortening and/or lengthening the at least one load line.

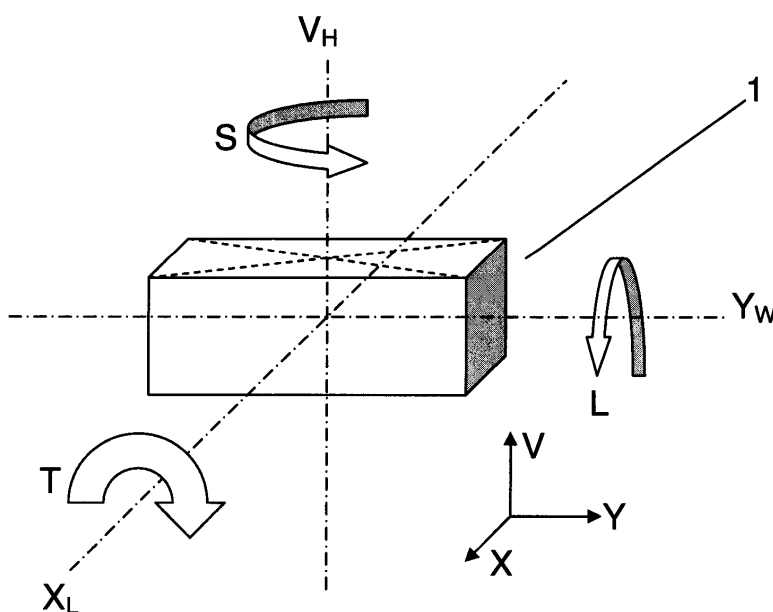


Fig 3

**PARTIAL EUROPEAN SEARCH REPORT**

Application Number

under Rule 62a and/or 63 of the European Patent Convention.
This report shall be considered, for the purposes of
subsequent proceedings, as the European search report

EP 06 12 0670

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 0 638 510 A1 (FRAUNHOFER GES FORSCHUNG [DE]) 15 February 1995 (1995-02-15)	1,3-15	INV. B66C13/08
Y	* column 8, line 29 - line 30 * * claim 4 *	2,16-28, 33-36	B66C13/46
Y	----- US 3 874 516 A (WATANABE TAKAYUKI) 1 April 1975 (1975-04-01)	20,29-36	
A	* figure 2 * * column 3, line 25 - line 29 *	3	
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	* paragraph [0010] - paragraph [0012] * * figures 3,5 * * paragraph [0030] - paragraph [0035] *		
Y	----- JP 2003 267660 A (MITSUI SHIPBUILDING ENG) 25 September 2003 (2003-09-25)	2,20-28, 33-36	
A	* paragraph [0011] * * paragraph [0024] - paragraph [0029] * * paragraph [0030] * * figures 1-8 *	1	
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			TECHNICAL FIELDS SEARCHED (IPC)
			B66C B63C
INCOMPLETE SEARCH			
The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC so that only a partial search (R.62a, 63) has been carried out.			
Claims searched completely :			
Claims searched incompletely :			
Claims not searched :			
Reason for the limitation of the search: see sheet C			
Place of search		Date of completion of the search	Examiner
The Hague		21 October 2011	Fiorani, Giuseppe
CATEGORY OF CITED DOCUMENTS		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	
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			

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PARTIAL EUROPEAN SEARCH REPORT

Application Number
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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
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A	US 6 145 680 A (JUSSILA OLAVI [FI] ET AL) 14 November 2000 (2000-11-14) * figure 1 *	11,12	

A	WO 91/14644 A1 (ASEA BROWN BOVERI [SE]) 3 October 1991 (1991-10-03) * the whole document *	1,20,35	

			TECHNICAL FIELDS SEARCHED (IPC)



**INCOMPLETE SEARCH
SHEET C**

Application Number
EP 06 12 0670

Claim(s) completely searchable:
1-36

Claim(s) not searched:
37-50

Reason for the limitation of the search:

The search has been restricted to the subject-matter indicated by the applicant in his letter of 30 August 2011 filed in reply to the invitation pursuant to Rule 62a(1) EPC.

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

EP 06 12 0670

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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21-10-2011

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