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(71) Applicants:
• Shaw, Jack B.
Johnstown, PA 15904 (US)
• Shaw, John B.
Johnstown, Pennsylvania 15904 (US)

(72) Inventors:
• Shaw, Jack B.
Johnstown, PA 15904 (US)
• Shaw, John B.
Johnstown, Pennsylvania 15904 (US)

(74) Representative: Eveleens Maarse, Pieter et al
Arnold & Siedsma,
Advocaten en Octrooigemachtigden,
Sweelinckplein 1
2517 GK Den Haag (NL)

(54) Crane safety devices and methods

(57) A crane safety device comprising a plurality of wind speed and direction sensors (53) and a control console (48) to display this information and to limit the operation of the crane to safe conditions. Other sensors for boom length (68) etc. are used to evaluate safe con-

ditions. The wind sensor is pivoted and has a counter-weight (65) to ensure that the sensor remains vertical at all boom angles.

A crane control decision network (66) is also disclosed for programming the setup of the crane.

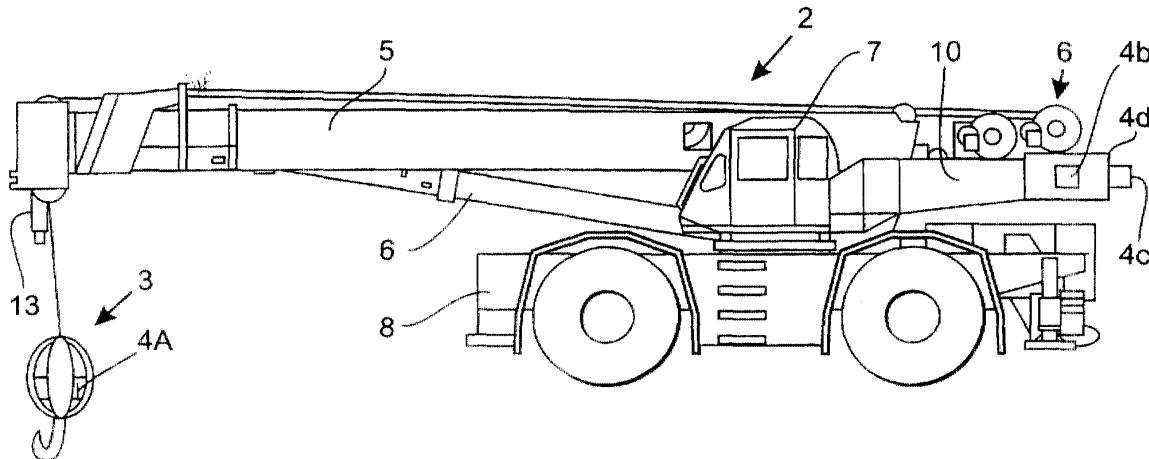


Fig. 1



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EUROPEAN SEARCH REPORT

Application Number
EP 01 20 0047

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	NL 8 503 113 A (TECHNO DIAGNOSIS BV) 1 June 1987 (1987-06-01) * the whole document *	1-6,10, 14,22,23	B66C15/06 B66C23/90
X	WO 98 55388 A (SMITH KENNETH JAMES ;WILLIAM HOOK LIMITED (GB)) 10 December 1998 (1998-12-10) * abstract *	1,6,10, 14-17, 21-23	
Y	* page 12 - page 13 *	7,11-13, 18-20, 24-26	
X	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 04, 30 April 1997 (1997-04-30) & JP 08 324965 A (TAISEI CORP), 10 December 1996 (1996-12-10) * abstract *	1,6,10, 14,22,23	
Y	PATENT ABSTRACTS OF JAPAN vol. 1995, no. 06, 31 July 1995 (1995-07-31) & JP 07 081887 A (KOMATSU MEC CORP; OTHERS: 01), 28 March 1995 (1995-03-28) * abstract *	11-13, 18-20, 24-26	TECHNICAL FIELDS SEARCHED (Int.Cl.7)
Y	DATABASE WPI Section PQ, Week 198229 Derwent Publications Ltd., London, GB; Class Q38, AN 1982-J7255E XP002182910 & SU 852 776 A (SKB MOSSTROI CONS), 7 August 1981 (1981-08-07) * abstract *	7	B66C
A	JP 58 042600 A (NIHON KIKAI KOGYO KK) 12 March 1983 (1983-03-12) * figures 1,2 *	7	
		-/--	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search		Examiner
THE HAGUE	5 July 2002		Sheppard, B
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone	T : theory or principle underlying the invention		
Y : particularly relevant if combined with another document of the same category	E : earlier patent document, but published on, or after the filing date		
A : technological background	D : document cited in the application		
O : non-written disclosure	L : document cited for other reasons		
P : intermediate document	& : member of the same patent family, corresponding document		

**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:



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EUROPEAN SEARCH REPORT

Application Number
EP 01 20 0047

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.7)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim							
D,A	US 5 731 974 A (PIETZSCH HEINZ WERNER ET AL) 24 March 1998 (1998-03-24) * abstract *	11,18,24							
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of completion of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>5 July 2002</td> <td>Sheppard, B</td> </tr> </table>				Place of search	Date of completion of the search	Examiner	THE HAGUE	5 July 2002	Sheppard, B
Place of search	Date of completion of the search	Examiner							
THE HAGUE	5 July 2002	Sheppard, B							
<p>CATEGORY OF CITED DOCUMENTS</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> 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 </td> <td style="width: 50%; vertical-align: top;"> 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 </td> </tr> </table>				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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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 01 20 0047

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: 1-10, 14-17, 21-23

Crane with wind sensor. The problem to be solved is one of measuring wind speed in order to ensure safe operation.

2. Claims: 11-13, 18-20, 24-25

Crane control device and method with decision network. The problem to be solved is one of programming the operating parameters for a crane.

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

EP 01 20 0047

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.

05-07-2002

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
NL 8503113	A	01-06-1987		NONE		
WO 9855388	A	10-12-1998	AU WO	7779998 A 9855388 A1	21-12-1998 10-12-1998	
JP 08324965	A	10-12-1996		NONE		
JP 07081887	A	28-03-1995		NONE		
SU 852776	A	07-08-1981	SU	852776 A1	07-08-1981	
JP 58042600	A	12-03-1983		NONE		
US 5731974	A	24-03-1998	DE EP JP	19538264 A1 0768588 A2 9167042 A	17-04-1997 16-04-1997 24-06-1997	