

(19)



(11)

EP 1 752 608 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
03.10.2007 Bulletin 2007/40

(51) Int Cl.:
E21B 7/02 (2006.01)

(43) Date of publication A2:
14.02.2007 Bulletin 2007/07

(21) Application number: **06254211.3**

(22) Date of filing: **10.08.2006**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI
SK TR**

Designated Extension States:
AL BA HR MK YU

(30) Priority: **11.08.2005 US 707351 P**

(71) Applicant: **NATIONAL-OILWELL, L.P.
Houston, TX 77042 (US)**

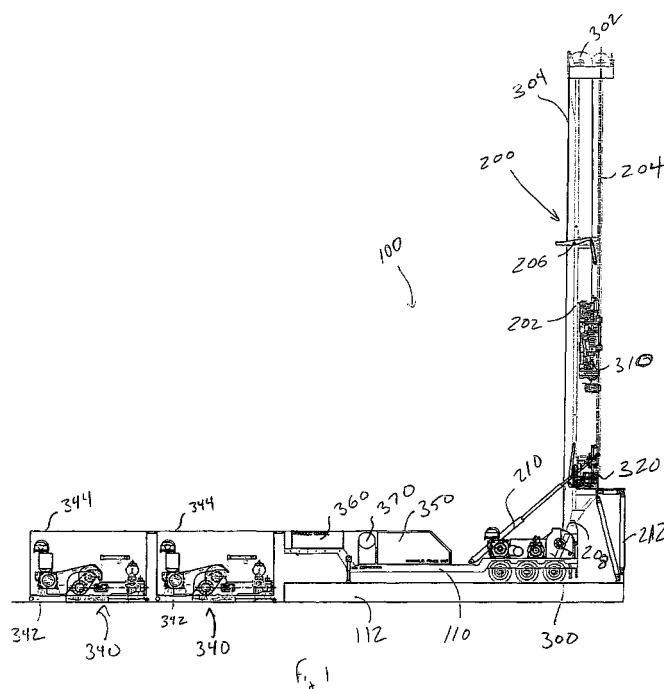
(72) Inventor: **Belik, Jaroslav
Pearland,
Texas 77584 (US)**

(74) Representative: **Flint, Adam
Beck Greener
Fulwood House,
12 Fulwood Place,
London WC1V 6HR (GB)**

(54) **Portable drilling mast structure, rig and method for erecting**

(57) A portable drilling mast structure (200) has a lower drilling mast (202) having a lower end pivotally coupled to a base (110). A hinge (206) is coupled to an upper end of the lower drilling mast (202) and a lower end of an upper drilling mast (204). The drilling mast structure (200) has a first position in which the lower drilling mast

(202) is parallel to the base (110) and the upper drilling mast (204) is disposed between the lower drilling mast (202) and the base (110). The drilling mast structure (200) has a second position wherein the lower drilling mast (202) is perpendicular to the base (110) and the upper drilling mast (204) is aligned with the lower drilling mast (202).





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 25 4211

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	US 2 703 634 A (LEE FRANCIS H) 8 March 1955 (1955-03-08) * column 2, lines 45-73 *	1-20	INV. E21B7/02
X	US 2 364 851 A (JOHANSEN HARRY C) 12 December 1944 (1944-12-12) * page 2, column 1, lines 40-75 *	1-20	
X	GB 628 266 A (JOHN HETHERINGTON; GEORGE HERBERT LANCHESTER; STERLING ENGINEERING CO) 25 August 1949 (1949-08-25) * page 2, line 98 - page 3, line 25 *	1-20	
A	US 4 371 046 A (READ VERNON [US]) 1 February 1983 (1983-02-01) * column 4, lines 17-44 *	1-20	
A	EP 1 010 816 A (DELMAG MASCHINENFABRIK [DE]) 21 June 2000 (2000-06-21) * abstract *	1-20	
A	US 2 904 310 A (LEONARD RAYMOND F) 15 September 1959 (1959-09-15) * figures 1,2 *	1-20	TECHNICAL FIELDS SEARCHED (IPC) E21B
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 23 August 2007	Examiner GARRIDO GARCIA, 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			

3
EPO FORM 1503 03.82 (P04C01)

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

EP 06 25 4211

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.

23-08-2007

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2703634	A	08-03-1955	NONE	
US 2364851	A	12-12-1944	NONE	
GB 628266	A	25-08-1949	NONE	
US 4371046	A	01-02-1983	NONE	
EP 1010816	A	21-06-2000	DE 29718149 U1	08-01-1998
US 2904310	A	15-09-1959	NONE	