

(11) **EP 2 364 909 A3**

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 11.01.2017 Bulletin 2017/02

(51) Int Cl.: **B63B 35/44** (2006.01) **B63B 1/04** (2006.01)

B63B 9/06 (2006.01)

(43) Date of publication A2: **14.09.2011 Bulletin 2011/37**

(21) Application number: 11157703.7

(22) Date of filing: 10.03.2011

(84) Designated Contracting States:

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated Extension States:

BA ME

(30) Priority: 11.03.2010 US 721681

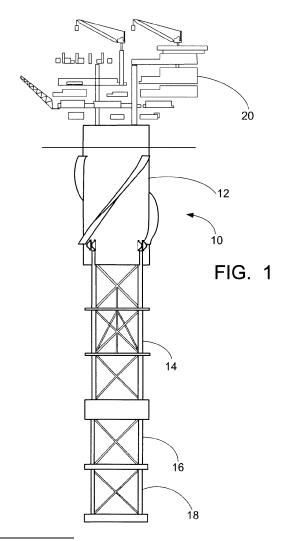
(71) Applicant: FloaTEC, LLC Houston, Texas 77079 (US)

(72) Inventor: Murray, John, J. Houston, TX 77077 (US)

(74) Representative: D Young & Co LLP 120 Holborn London EC1N 2DY (GB)

(54) Deep Water Offshore Apparatus and Assembly Method

(57)A truss type spar (10) that eliminates the need for the more complex and critical attachment of the buoyant hull to the truss section at a fabrication site/yard that is remote from the fabrication yard where the buoyant hull and truss sections were originally built. The buoyant hull (12) and initial truss sections (14) are constructed at the fabrication yard of choice, joined together, and transported to a dock or fabrication yard (a second location) that is as close as possible to the final offshore installation site. Transport of such completed structures, either separately or together, is normally done on a heavy lift vessel to reduce transport time and prevent damage to the buoyant hull and truss sections. Once at the fabrication yard/dock, the joined buoyant hull (12) and initial truss section (14) are floated off the heavy lift vessel and the draft adjusted to a position suitable for joining additional truss sections. One or more additional truss sections (16,18) can be attached to the initial section, and the completed buoyant hull and truss is then towed to the final offshore installation site.



EP 2 364 909 A3



EUROPEAN SEARCH REPORT

Application Number EP 11 15 7703

5

5							
		DOCUMENTS CONSID	ERED TO BE RELEVANT				
	Category	Citation of document with i of relevant pass	ndication, where appropriate, ages	F to			
10	X	GB 2 378 472 A (SPA 12 February 2003 (2 * abstract * * figures *		1-			
15	X	US 2002/139286 A1 0 3 October 2002 (200 * paragraphs [0014] * figure 3 *		1-			
20	A	US 3 736 756 A (LL0 5 June 1973 (1973-0 * abstract * * figures *		1-			
25	A	GB 2 303 337 A (KVA [GB]) 19 February 1 * abstract * * figures *	AERNER EARL & WRIGHT 1997 (1997-02-19)	1-			
30	A	JP S60 208512 A (HI CO) 21 October 1985 * abstract * * figures *	TTACHI SHIPBUILDING ENG 5 (1985-10-21)	1-			
35							
40							
45							
	1	The present search report has been drawn up for all claims					
50	01)	Place of search	Date of completion of the search				
	P04C(The Hague	7 December 2016				
55	X: part X: part Y: part docu	ATEGORY OF CITED DOCUMENTS ioularly relevant if taken alone ioularly relevant if combined with anot unent of the same category inological background	E : earlier patent doc after the filing dat ther D : document cited in L : document cited fo	umer the a rothe			
55	인 O: non	-written disclosure	& : member of the sa	me p			

	DOCUMENTS CONSID						
Category	Citation of document with i	ndication, where appropriate, ages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)			
X	GB 2 378 472 A (SPA 12 February 2003 (2 * abstract * * figures *		1-3	INV. B63B35/44 B63B9/06 B63B1/04			
Х	US 2002/139286 A1 (3 October 2002 (200 * paragraphs [0014] * figure 3 *) 1-3				
A	US 3 736 756 A (LLC 5 June 1973 (1973-6 * abstract * * figures *		1-3				
A	GB 2 303 337 A (KVA [GB]) 19 February 1 * abstract * * figures *	AERNER EARL & WRIGHT 1997 (1997-02-19)	1-3				
A	JP S60 208512 A (HI CO) 21 October 1985	TACHI SHIPBUILDING ENG 5 (1985-10-21)	1-3	TECHNICAL FIELDS SEARCHED (IPC)			
	* abstract * * figures * The present search report has	been drawn up for all claims		B63B E02B			
	Place of search The Hague	Date of completion of the search 7 December 2016	Gar	rdel, Antony			
C	ATEGORY OF CITED DOCUMENTS	T : theory or princi	le underlying the	invention			
Y : part docu A : tech O : non	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 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						

EP 2 364 909 A3

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

EP 11 15 7703

5

55

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.

07-12-2016

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
15	GB 2378472	A 12-02-2003	BR 0203161 A GB 2378472 A NO 20023504 A US 2003031516 A1	27-05-2003 12-02-2003 11-02-2003 13-02-2003
	US 2002139286	A1 03-10-2002	NONE	
	US 3736756	A 05-06-1973	NONE	
20	GB 2303337	A 19-02-1997	NONE	
	JP S60208512	A 21-10-1985	NONE	
25				
30				
35				
40				
45				
45				
50				
03 PVG				

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