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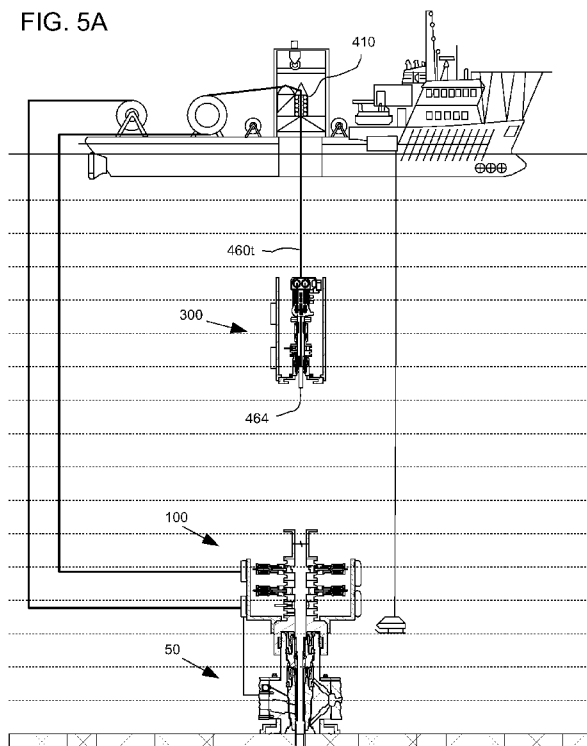
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(54) Title: COILED TUBING MODULE FOR RISERLESS SUBSEA WELL INTERVENTION SYSTEM

FIG. 5A



(57) Abstract: A method for riserless intervention of a subsea well includes connecting an intervention assembly (300) to a bottom hole assembly (BHA). The BHA is connected to coiled tubing (460t). The method further includes lowering the intervention assembly to a blowout preventer (BOP) fastened to a subsea production tree (50) using an injector (410) of a support vessel (400) engaged with the coiled tubing; fastening the intervention assembly to the BOP; slacking the coiled tubing using the vessel injector; engaging a stripper (320) of the intervention assembly with the coiled tubing; and driving the BHA through the tree and into a wellbore (10) using a subsea injector (325) of the intervention assembly while synchronizing both injectors to maintain the slack (470) in the coiled tubing.



TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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A. CLASSIFICATION OF SUBJECT MATTER
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ADD.

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/61145 A1 (KONGSBERG OFFSHORE AS [NO]; CARLSEN HANS PAUL [NO]) 23 August 2001 (2001-08-23)	1-8
Y	abstract figures 1 - 7 page 1, line 32 - page 2, line 1 page 4, line 5 - line 20 page 6, line 14 - line 31 page 7, line 32 - page 8, line 31 page 12, line 16 - page 15, line 1	9-16
Y	US 2005/224224 A1 (MARTIN DAVID W [US] ET AL MARTIN DAVID WAYNE [US] ET AL) 13 October 2005 (2005-10-13) abstract figures 1,2	9-16

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2004/003338 A1 (ABB AS [NO]; HAAHEIM SVEIN AUDUN [NO]; HEIM EDGAR JOHAN [NO]; WOLD STU) 8 January 2004 (2004-01-08) abstract figures 1 - 6 page 8, line 6 - line 22 page 11, line 11 - page 15, line 27 page 19, line 14 - page 20, line 9 page 22, line 28 - page 23, line 7 -----	10-16
A	WO 2010/019675 A2 (SCHLUMBERGER TECHNOLOGY CORP [US]; MACHIN JONATHAN BRUCE [SG]; BLAMENG) 18 February 2010 (2010-02-18) abstract figures 1,2,4,5 paragraph [0012] paragraph [0014] paragraph [0026] paragraph [0029] paragraph [0032] - paragraph [0037] -----	10-16

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/023518

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0161145	A1	23-08-2001	AT 350563 T 15-01-2007
		AU 3622601 A 27-08-2001	
		AU 2001236226 B2 18-05-2006	
		BR 0108573 A 19-11-2002	
		CA 2400001 A1 23-08-2001	
		DK 1264074 T3 07-05-2007	
		EP 1264074 A1 11-12-2002	
		EP 1760252 A1 07-03-2007	
		NO 20000836 A 22-08-2001	
		US 2003155127 A1 21-08-2003	
		WO 0161145 A1 23-08-2001	

US 2005224224	A1	13-10-2005	NONE

WO 2004003338	A1	08-01-2004	AU 2003247022 A1 19-01-2004
		EP 1540130 A1 15-06-2005	
		US 2006124314 A1 15-06-2006	
		WO 2004003338 A1 08-01-2004	

WO 2010019675	A2	18-02-2010	GB 2474211 A 06-04-2011
		US 2011198092 A1 18-08-2011	
		WO 2010019675 A2 18-02-2010	
