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EUROPEAN PATENT APPLICATION

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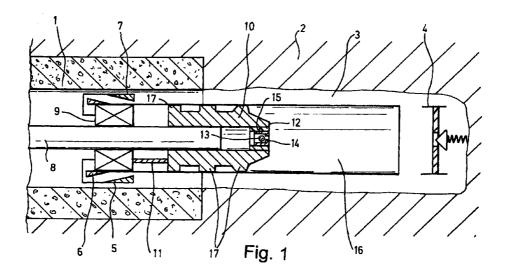
Harding, Richard Patrick et al Marks & Clerk, 4220 Nash Court, Oxford Business Park South Oxford OX4 2RU (GB)

(54) Liner assembly and method of running the same

- (57) A liner assembly which comprises:
 - (a) a liner (3);
 - (b) a non-return valve at or adjacent the downstream end of said liner (3);
 - (c) a liner hanger assembly (5) at or adjacent the upstream end of said liner (3);
 - (d) a running tool (9) releasably connected to said

liner hanger assembly (5); and

(e) a plug (10) at or adjacent the upstream end of said liner (3) and defining with said non-return valve (4) and said liner (3) an isolated space (16), said plug (10) having a unit (13, 14) which can be acted upon to allow fluid to pass into said isolated space (16).





EUROPEAN SEARCH REPORT

Application Number EP 00 30 0442

		D TO BE RELEVANT	Delever	0.400.00.00.00.00.00	
Category	Citation of document with indication of relevant passages	ni, wriere appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)	
E	GB 2 346 634 A (SPECIAL LTD) 16 August 2000 (20 * the whole document *	ISED PETROLEUM SERV 000-08-16)	1,2,4,5	E21B33/14 E21B43/10	
A	US 4 393 931 A (MUSE JO 19 July 1983 (1983-07-1 * column 7, line 33 - c	.9)	1-6		
A	US 3 572 432 A (AULICK 23 March 1971 (1971-03- * column 4, line 32 - 1	23)	1-6		
A	US 5 181 571 A (JONES FRANK L ET AL) 26 January 1993 (1993-01-26) * column 4, line 55 - column 5, line 15; figures 3A-3F *		1-6		
				TECHNICAL FIELDS	
				SEARCHED (Int.CI.7)	
	The present search report has been dr	rawn up for all claims		Examiner	
THE HAGUE		15 March 2001	Gar	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 E : earlier patent docu after the filing date D : document cited in L : document cited for	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		

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

EP 00 30 0442

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.

15-03-2001

Patent document cited in search repo		Publication date		tent family ember(s)	Publication date
GB 2346634	Α	16-08-2000	NONE		
US 4393931	Α	19-07-1983	CA	8202380 A 1170983 A 2097450 A,B	05-04-1983 17-07-1984 03-11-1982
US 3572432	Α	23-03-1971	NONE		
US 5181571	A	26-01-1993	US AU BR CN EP HUE JP NOA TR US AU CN IE OA WO	4986361 A 5117915 A 6345890 A 9007627 A 2065338 A 1053278 A 0489816 A 60362 A 903114 A 5500695 T 920748 A 9261 A 24700 A 9103620 A 5456317 A 7348291 A 1055033 A 910209 A 9343 A 9113237 A	22-01-1991 02-06-1992 08-04-1991 18-08-1992 01-03-1991 17-06-1992 28-08-1992 13-03-1991 12-02-1993 09-04-1992 31-08-1992 21-03-1991 26-08-1997 10-10-1995 18-09-1991 11-09-1991 15-09-1991 29-12-1992

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

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