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EUROPEAN PATENT APPLICATION

21 Application number: **86306608.0**

51 Int. Cl.⁴: **E 21 B 33/129, E 21 B 23/06**

22 Date of filing: **27.08.86**

30 Priority: **27.08.85 US 770502**

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43 Date of publication of application: **01.04.87 Bulletin 87/14**

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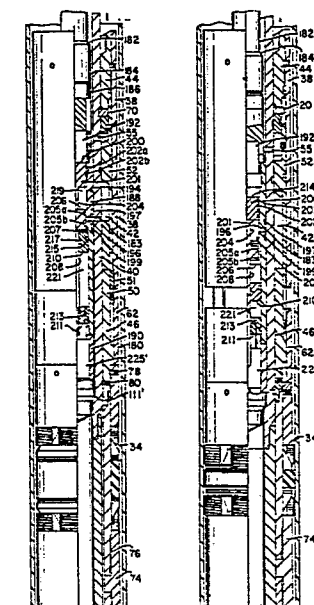
84 Designated Contracting States: **AT DE FR GB IT NL**

88 Date of deferred publication of search report: **27.07.88 Bulletin 88/30**

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54 **Methods and apparatus for well completion operations.**

57 A well tool (220), eg. a packer, a firing head or a release sub, comprises a member (52) slidable relative to the housing (38) of the tool, to actuate the tool. A separate actuator assembly (182) is receivable in the tool and includes a chamber (219) at a pressure lower than the well pressure. Means (55; 196) are provided for applying well pressure to one side of the member and said chamber pressure to the other side of the member, to cause the member to slide to actuate the tool. Advantageously, the member (52) is a sleeve or piston.



EP 0 216 527 A3



European Patent
Office

EUROPEAN SEARCH REPORT

0216527

Application Number

EP 86 30 6608

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
Y	US-A-4 526 229 (DICKERSON) * Abstract; column 6, line 55 - column 7, line 14 *	1,3,6,7,9	E 21 B 33/129 E 21 B 23/06
A	---	2,8	
Y	US-A-4 285 400 (MULLINS) * Abstract; column 9, line 18 - column 10, line 17 *	1,3,6,7,9	
A	---	10	
A	US-A-4 516 634 (PITTS) * Abstract; claim 9 *	1,9	
A	---		
A	GB-A-2 108 180 (CAMCO INC.) * Abstract; claim 1 *	1,9	
A	---		
A	US-A-3 283 820 (TAUSCH) * Whole document *	1,9	

The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			E 21 B
Place of search		Date of completion of the search	Examiner
THE HAGUE		14-04-1988	HEDEMANN, G. A.
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	