

①⑫ **EUROPEAN PATENT APPLICATION**

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E 21 B 7/18, E 21 B 33/138**

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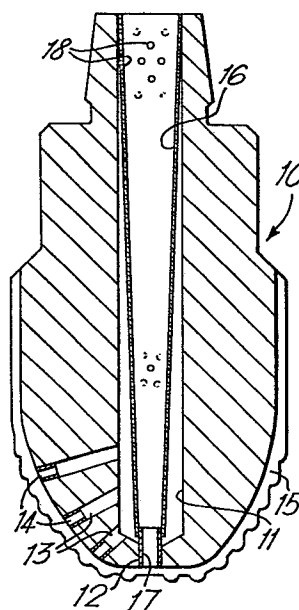
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⑤④ **Rotary drill bits and method of use.**

⑤⑦ To prevent foreign bodies or lost circulation material in drill mud blocking the nozzles of a rotary drill bit, the central passageway incorporates a separating means (16, 30-34, 36) arranged to separate larger particles from the drill mud and to divert them away from the nozzles and out of the bit. The separating means is arranged to operate in a static or dynamic manner.





European Patent
Office

EUROPEAN SEARCH REPORT

0033654

Application number

EP 81 30 0424

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	<u>US - A - 3 175 629</u> (ROWLEY) * Column 3, line 62 - column 4, line 22; column 4, lines 63-72 *	1-4, 10, 11, 12	E 21 B 10/60 21/00 7/18 33/138
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X	<u>US - A - 2 293 259</u> (JOHNSON) * Page 1, right-hand column, lines 12-20; page 1, right-hand column, line 47 - page 2, left-hand column, line 6 *	1-6, 10	
	--		TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
X	<u>AU - A - 41 129/72</u> (LISTER) * Page 4, lines 14-21 *	1, 2, 7, 11	E 21 B
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	<u>US - A - 3 112 803</u> (ROWLEY) * Column 4, lines 19-46 *	5, 6	
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	<u>US - A - 4 091 988</u> (BODINE) * Abstract *	1, 2, 7, 8	
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	<u>US - A - 3 788 408</u> (DYSART) * Column 3, lines 15-30 *	1, 2, 7	CATEGORY OF CITED DOCUMENTS
	--		X: particularly relevant A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons
	<u>US - A - 3 924 695</u> (KENNEDY) * Column 3, line 59 - column 4, line 14; column 3, lines 22-26; column 4, lines 49-56; figure 4 *	1, 2, 6, 7, 11	
	. / .		
The present search report has been drawn up for all claims			&: member of the same patent family, corresponding document
Place of search	Date of completion of the search	Examiner	
The Hague	03-08-1981	SOGNO	

