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Arthur R. Davies & Co. 27 Imperial Square
Cheltenham GL50 1RQ Gloucestershire(GB)(54) **Rotary drill bits and methods of manufacturing such bits.**

(57) A rotary drill bit comprises a bit body having a shank for connection to a drill string, a plurality of cutting elements mounted at the surface of the bit body, and a passage in the bit body for supplying drilling fluid to the surface of the bit body, each cutting element comprising a thin hard facing layer, for example polycrystalline diamond, bonded to a less hard backing layer, for example tungsten carbide. The maximum instantaneous load to which each cutting element may be subject in use is reduced by reducing the thickness of the cutting element. The thickness of cutting element necessary to achieve the required object is defined, alternatively, in terms of the absolute dimensions of the cutting element or backing layer, in terms of the relative thickness of the backing layer and hard facing layer, or in terms of the thickness of the cutting element or backing layer in relation to the overall dimensions of the cutting face.

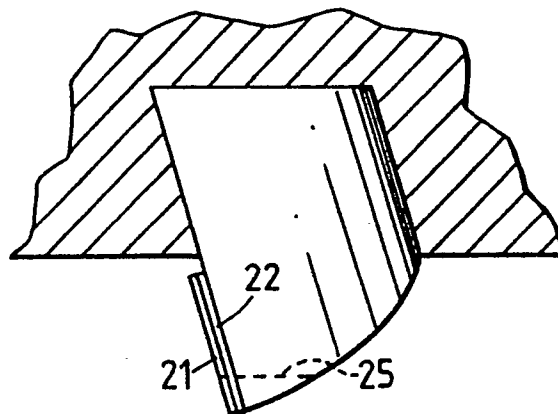


FIG. 5

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EP 88 12 0448 ✓

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)
A	US-A-4 186 628 (BONNICE) * Column 4, lines 29-34; column 5, lines 18,19; column 8, lines 5,6 * ---	1-9	E 21 B 10/56
A	GB-A-2 084 219 (NL INDUSTRIES) * Page 1, lines 25-30 * ---	1-9	
A	EP-A-0 079 243 (SUMITOMO ELECTRIC INDUSTRIES) * Page 26, line 15 - page 28, line 25 * -----	1-9	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 4)
			E 21 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 02-08-1989	Examiner 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			