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## **EUROPEAN PATENT APPLICATION**

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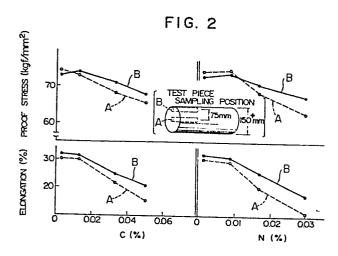
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- Non-magnetic steel having high corrosion resistance and high strength for use as material of drill collar, and drill collar made of the steel.
- (5) A non-magnetic steel alloy having high corrosion resistance and high strength suitable for use as the material of a drill collar which operates under corrosive conditions, particularly under the conditions which cause stress corrosion cracking, and a drill collar made of the steel alloy. The steel alloy has a composition which essentially consists of: not greater than 0.02% of C, not greater than 2.0% of Si, not greater than 2.0% of Mn, 25 to 50% of Ni, 18 to 30% of Cr, 0.1 to 1.5% of Al, 1.5 to 3.0% of Ti, 0.0005 to 0.020% of Ca, not greater than 0.020% of N and the balance Fe and incidental impurities, and a drill collar made of the steel.





## **EUROPEAN SEARCH REPORT**

EP 85 30 8615

DOCUMENTS CONSIDERED TO BE RELEVANT  Citation of document with indication, where appropriate, Relevant					CLASSIFICAT	ION OF THE
ategory	of relevant passages			to claim	APPLICATION (Int. CI.4)	
A	US-A-2 803 539	(HARRIS et a	1.)		C 22 C E 21 B E 21 B	38/48 17/16 47/022
A	FR-A-2 135 963 DEUTSCHE METALLW	(VEREINIGTE WERKE)			C 22 C	38/50
A	us-A-3 659 882	(SOURESNY)				
A	DE-B-1 261 677 BLECKMANN)	(SCHOELLER				4
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					TECHNICA SEARCHED	
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	The present search report has I	been drawn up for all claims				
Place of search Date of complete		Date of completion of	of the search		Examiner	
THE HAGUE 13-0		13-02-19	87	OBER	WALLENEY	R.P.L.
Y ; pa do A : ted	CATEGORY OF CITED DOCI rticularly relevant if taken alone rticularly relevant if combined w cument of the same category chnological background in-written disclosure	rith another D	theory or prince earlier patent de after the filing of document cited document cited mamber of the	ocument, date d in the ap d for other	but published o	n, or



