11) Publication number:

**0 204 243** 

12

## **EUROPEAN PATENT APPLICATION**

21 Application number: 86107126.4

(f) Int. Ci.4: **E 21 B 4/14**, E 21 B 21/12

22 Date of filing: 26.05.86

30 Priority: **07.06.85 GB 8514505** 

7) Applicant: WEAVER & HURT LIMITED, Station Lane, Old Whittington Chesterfield S41 9QS (GB)

43 Date of publication of application: 10.12.86 Bulletin 86/50

inventor: Hurt, John Arthur, 760A Chatsworth Road, Brookside Chesterfield (GB)

Designated Contracting States: AT BE CH DE FR IT LI LU NL SE Inventor: Templeton Brown, John Callam Allan, 52 Dobcroft Avenue, Millhouses Sheffield S7 2LX (GB)

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

Representative: Houghton, David et al, Hulse & Co. Cavendish Buildings West Street, Sheffield, S1 1ZZ (GB)

64) Rock Drills.

(5) The invention relates to rock drills generally known as down the hole drills. During the use of down the hole drills it is inevitable that chippings and other debris collect in the bottom of the hole and unless such chipping and debris are removed the drilling operation will be impeded. In addition it is a frequent requirement that chippings and debris are brought to the surface for analysis. The object of the present invention is to provide a rock drill facilitating the efficient removal of chippings and debris from the bottom of a hole which objective is met by a construction in which pressure air for the purposes of driving the piston (16) within the rock drill is exhausted through an annular passageway (13) between the end of the wear tube (1) and the drill bit (10) and whereby exhaust air passes entirely around the periphery of the drill bit and to the bottom of the hole from where it enters a centre bore (30) through the drill bit and is exhausted through the centre tube (27) of the drill carrying with it all chippings and debris gathered in the bottom of the hole.

P 0 204 243 A





## **EUROPEAN SEARCH REPORT**

EP 86 10 7126

					EP	86 10 /1
	DOCUMENTS CONSI	DERED TO BE	E RELEVAN	Γ		
Category	Citation of document with i of relevant pa		priate,	Relevant to claim	CLASSIFICAT APPLICATIO	TION OF THE N (Int. Cl.4)
Х	US-A-3 991 834 (CU * Column 6, lines 5 2, line 64 - column	2-60,19-27; c	olumn	1-6	E 21 B E 21 B	
X	US-A-4 509 606 (WI * Column 6, lines 6 lines 26-30; column 37-39,46-54 *	0-66; column	7,	1-4,6		
A	US-A-4 321 974 (KL * Column 6, lines 1			1-4,6		
Α	US-A-3 934 662 (CU * Column 8, lines 2	RINGTON) 2-45 *		1		
					TECHNICAL	
				-	SEARCHED	(Int. Cl.4)
					E 21 B	
		•				
	The present search report has h	een drawn up for all c	aims			
			etion of the search	600116	Examiner	
1111	HAGUE	13-04-	TARR	SUGNU	) M.G.	
X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background			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			
O: non-written disclosure P: intermediate document			& : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P0401)