





European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 99 11 5503

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.7)
X	BE 571 816 A (STEINKOHLBERGWERK HANNOVER-HANNIBAL AKTIENGESELLSCHAFT) 31 October 1958 (1958-10-31) * page 2-3; figure 1 * ---	1-6,8	E21D9/10
X	GB 1 170 954 A (DEMAG AG) 19 November 1969 (1969-11-19) * figures 1-5 * ---	1-5,7	
X	US 3 444 939 A (BECHEM KARL GUNTHER) 20 May 1969 (1969-05-20) * figures 1,3 * ---	1,3-5,7	
X	DE 12 75 976 B (G. SCHÖNFELD) 29 August 1968 (1968-08-29) * figures 1-5 * ---	1-5	
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 02, 28 February 1997 (1997-02-28) -& JP 08 260888 A (KOMATSU LTD), 8 October 1996 (1996-10-08) * abstract; figures 1-5 * -----	1-8	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7) E21D
Place of search THE HAGUE		Date of completion of the search 5 July 2000	Examiner van Berlo, 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	

EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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05-07-2000

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82