(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 234 026**
A3

(12) # EUROPEAN PATENT APPLICATION

(21) Application number: **86117342.5**

(51) Int. Cl.⁴: **B02C 15/00** , C22C 37/08

(22) Date of filing: **12.12.86**

(30) Priority: **24.02.86 US 831948**

(43) Date of publication of application:
02.09.87 Bulletin 87/36

(84) Designated Contracting States:
BE DE ES FR GB IT NL

(88) Date of deferred publication of the search report:
18.05.88 Bulletin 88/20

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(54) **Articles embodying a wear resistant surface layer and a method of manufacture thereof.**

(57) Articles (18, 38, 44, 46, 48) embodying a wear resistant surface layer (34) which are particularly suited for employment in a bowl mill (10) of the type that is operative for purposes of effective the pulverization therewithin of a material such as coal. Among these articles (18, 38, 44, 46, 48) that embody such a wear resistant surface layer (34) are to be found the rolls (18) which provide the grinding force that is employed for purposes of effecting the pulverization within the bowl mill (10) of material such as coal as well as the liners (44, 46, 48) that for wear resistant purposes are employed in selected regions of the interior of the bowl mill (10). As regards the rolls (18), the wear resistant surface layers (34) thereof, as cast, comprise, by weight percentages, 3.2% - 3.4% Carbon, 1.45% - 1.65% Silicon, 0.4% maximum Manganese, 4.5% - 5.0% Nickel, 4.0% - 4.25% Chromium, 0.4% -0.5% Phosphorus, 0.9% - 0.11% Sulfur, 0.4% - 0.6% Molybdenum and no Bismuth. On the other hand, insofar as the liners (44, 46, 48) are concerned, the wear resistant surface layers thereof, as cast, comprise, by weight percentages, 3.5% - 3.7% Carbon, 1.2% - 1.6% Silicon, 0.4% maximum Manganese, 4.3% - 5.0% Nickel, 3.7% - 4.4% Chromium, 0.15% - 0.25% Phosphorus, 0.9% - 0.11% Sulfur, 0.4% - 0.6% Molybdenum and 0.015% nominal Bismuth.

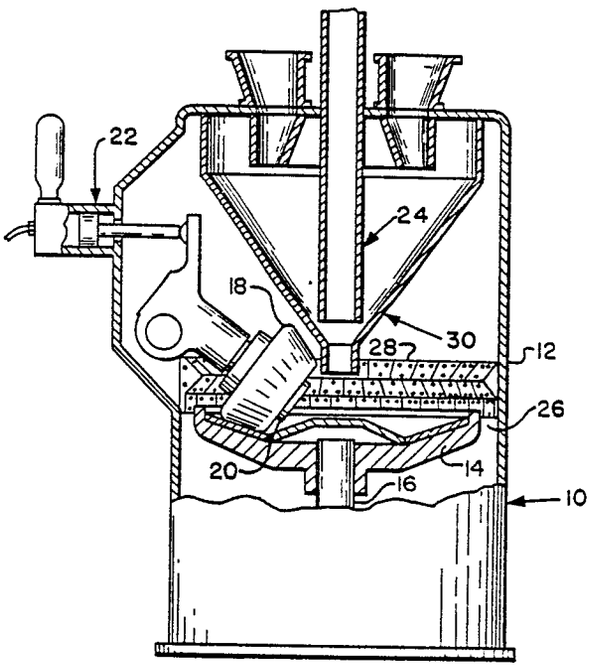

Fig. 1

EP 0 234 026 A3

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EUROPEAN SEARCH REPORT

Application Number

EP 86 11 7342

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)
Y,D	GB-A-2 072 702 (SHEEPBRIDGE EQUIPMENT) * Page 1, abstract * ---	1,5,9	B 02 C 15/00 C 22 C 37/08
Y	PATENT ABSTRACTS OF JAPAN, vol. 9, no. 135 (M-386)[1858], 11th June 1985; & JP-A-60 18 267 (MITSUBISHI JUKOGYO K.K.) 30-01-1985 * Abstract * ---	1	
Y	DE-A-1 507 580 (LOESCHE) * Page 5; figure 1 *	5	
A	---	6,7	
Y	DE-A-2 214 146 (GEBR. BÖHLER) * Page 4 * ---	5,9	
A,D	US-A-4 389 767 (BURBACH) * Page 1, abstract; column 10, lines 64-66 * ---	1-4	
A	EP-A-0 107 044 (LUMMUS CREST) * Page 1, abstract * ---	5,6,8	TECHNICAL FIELDS SEARCHED (Int. Cl.4)
A,D	EP-A-0 111 109 (COMBUSTION ENGINEERING) * Figures 4,5,6 * ---	10-12	B 02 C C 22 C B 22 D
A,D	EP-A-0 110 191 (TECHNIQUES LUMMUS) ---		
A,D	EP-A-0 192 972 (COMBUSTION ENGINEERING) ---		
A,D	FR-A-1 543 548 (COMBUSTION ENGINEERING) ---		
A,D	US-A-4 002 299 (SKALDA) -----		

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	09-02-1988	VERDONCK J.C.M.J.

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
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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

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