

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets

(11) Publication number:

**0 211 117
A3**

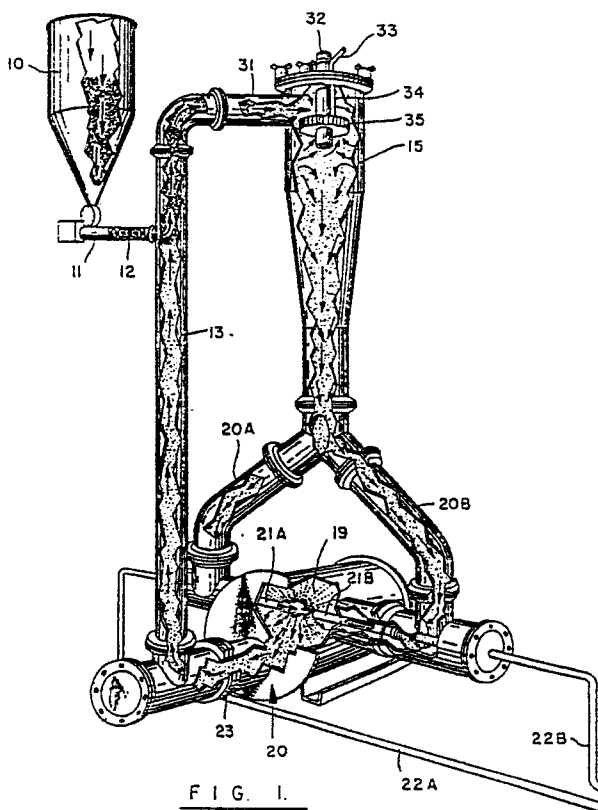
(12)

EUROPEAN PATENT APPLICATION(21) Application number: **85305506.9**(51) Int. Cl.4: **B02C 19/06 , B04C 5/02**(22) Date of filing: **02.08.85**(43) Date of publication of application:
25.02.87 Bulletin 87/09(84) Designated Contracting States:
AT BE CH DE FR GB IT LI LU NL SE(86) Date of deferred publication of the search report:
03.02.88 Bulletin 88/05(71) Applicant: **RMD INDUSTRIES, INC.**
2764 Gresham Avenue North
Oakdale Minnesota 55119(US)(72) Inventor: **Dunbar, Richard M**
2764 Gresham Avenue North
Oakdale Minnesota 55119(US)(74) Representative: **Parr, Ronald Edward R.E. Parr**
& Co.
Colman House Station Road
Knowle Solihull West Midlands B93 0HL(GB)(54) **Method and apparatus for providing finely divided powder.**

(57) A no-moving parts pulverizer (19) and classifier system (15) reduces materials to one hundred fifty microns to less than ten microns using superheated steam or any gas capable of being compressed and expanded thru machined orifices. The resultant size reduction depends upon the classifier gas rate and pressure, the pulverizer gas rate and its pressure. These combinations control and regulate maximum particle size, average particle size and the mix of gas and solids in process.

The feedstock enters the classifier chamber (15) by auger (12) or similar manner as long as the feeder maintains a positive seal. The classifier chamber (15) separates the feedstock by size and particles of a predetermined size exit (32) the system in a specific ratio of gas and solids. The feedstock larger than specified exit the base of the classifier (15), split into two equal streams (20A, 20B) and accelerate thru the pulverizer (19). The reduced feedstock exits (13) the pulverizer (19), mixes with incoming feedstock (10) and again enters the classifier (15).

The system is controlled using pressure, temperature, feedrate or any combination of the three. Other control methods can be used if any one of the three are part of the control circuit.





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	US-A-3 885 931 (SCHALLER) * Page 1, abstract; column 2, lines 40-55; column 6, lines 11-35 *	1,8	B 02 C 19/06 B 04 C 5/02
A	---	2,4,11	
Y	US-A-4 019 688 (AKUNOV) * Page 1, abstract; column 3, lines 4-65; column 4, lines 1-21 *	1,8	
A	---	5,7,10,12	
Y	US-A-2 624 516 (ANDRIES) * Column 2, lines 1-20; column 3, lines 55-75; column 4, lines 1-16 *	1,8	
A	---	5-7,10,12	
A,D	US-A-2 636 688 (SINGH) ---		
A,D	US-A-3 186 648 (MANDLE) ---		
E	US-A-4 538 764 (DUNBAR) * Columns 1-6 * -----	1-12	TECHNICAL FIELDS SEARCHED (Int. Cl.4) B 02 C B 04 C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26-11-1987	Examiner 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 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			

