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(54) Thermal spray powders, their production and their use.

(57) A method of forming a binder-free agglomerated powder, which comprises :

placing first and second materials in a drum (28) of a mechanical agglomerator, the drum having a continuous curved inner wall (34) and the mechanical agglomerator having impact means (50) disposed in the drum adjacent the drum inner wall and means (32) for providing relative movement between the impact means (50) and the drum inner wall (34) ;

processing the first and second materials in the mechanical agglomerator by centrifugally forcing the first and second materials between the impact means (50) and the drum inner wall (34) such that forces of shear and compression cause the first and second materials to agglomerate to form agglomerated particles which are composites of the first and second materials ; and

classifying the agglomerated particles to form a thermal spray powder fraction.

A thermal spray powder, which comprises mechanically agglomerated particles having a first component and a second component, substantially all of the particles ranging in size from about 0.5 μm to about 177 μm and the powder having an average particle size of from about 44 μm to about 150 μm.

A method of forming a thermal spray coating, which comprises providing a thermal spray powder fabricated by mechanical agglomeration in a drum having an impact member ; and thermal spraying said powder onto a target to form a coating.

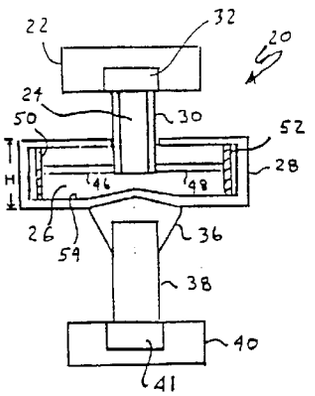

Fig.1

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EUROPEAN SEARCH REPORT

Application Number

EP 91 31 0593

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.5)
X	PATENT ABSTRACTS OF JAPAN DATABASE Abs. Publication Date=26-07-84 Abs. Vol.=8162 & JP-A-59064765 (SHOWA DENKO KK) * abstract *	1-5	B22F1/00 C23C4/00 C23C4/04 A61F2/30
A	US-A-4 818 567 (KEMP ET AL) 4 April 1989 * whole document *	1-23	
A	US-A-3 723 165 (LONGO ET AL) 27 March 1973 * column 1, line 7 - column 3, line 12 *	1-23	
A	US-A-1 992 549 (SHORT ET AL) 26 February 1935 * whole document *	1	
A	WPIL DATABASE, DERWENT PUBLICATIONS AN= 89-104777 [14] DW=8914 & JP-A-1052471 (DAIDO TOKUSHOKO KK) 28 February 1989 * abstract *	1,24-26	
A,D	US-A-4 789 105 (HOSOKAWA ET AL) 6 December 1988 * experiments 4-7 * * figures *	1	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A	WO-A-8 606 617 (PLASMAINVENT AG) 20 November 1986 * claim 1 * * figure * * page 5, line 5 - line 7 * * page 7, line 6 - line 18 *	24-26	B22F C23C A61F
A	BIOMEDIZINISCHE TECHNIK vol. 34, no. 3, March 1989, BERLIN, DE pages 46 - 52; DÖRRE: 'Hydroxylapatitkeramik-Beschichtungen für Verankungsteile von Hüftgelenkprothesen (Technische Aspekte)'	24-26	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	24 AUGUST 1992	RIBA VILANOVA M.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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