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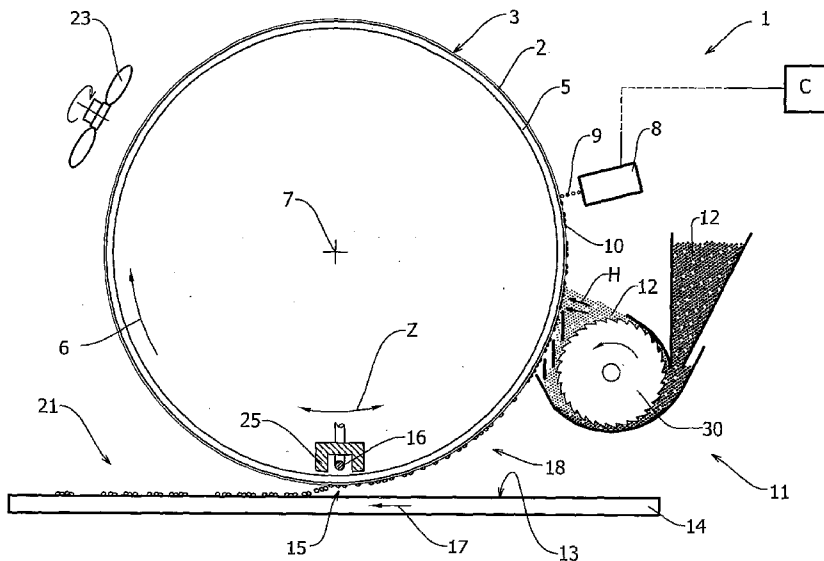
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Declarations under Rule 4.17:
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

[Continued on next page]

(54) Title: DECORATING WITH POWDER MATERIAL



(57) Abstract: A method for applying a pattern (21, 57) of granular material (12, 12b, 12c, 12d) on a receiving surface (13), comprising in sequence associating said granular material (12, 12b, 12c, 12d) with a transferring surface (3) together with a liquid aggregating phase (9, 20) and according a prefiguration (10, 10b, 18, 56) of said pattern; facing said transferring surface (3) carrying said granular material (12, 12b, 12c, 12d) and said liquid phase (9, 20) to said receiving surface (13) in a transferring zone (15, 45); the method further comprises heating at least one portion of said liquid phase (9, 20) in said transferring zone (15) in order to detach from said transferring surface (3) said granular material (12, 12b, 12c, 12d) and applying the latter on said receiving surface (13).

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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. B28B11/04 B28B11/00 B41M1/34

According to International Patent Classification (IPC) or to both national classification and IPC:

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B28B B41M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 386 696 B1 (RODI ANTON [DE] ET AL) 14 May 2002 (2002-05-14)	1-3, 5-12, 22, 23, 34-48
Y	column 2, lines 21-60; figures column 4, lines 40-65 column 7, lines 1-42 column 8, lines 19-67 column 11, line 43 - column 12, line 25	4, 7, 13-16, 38, 49-58
Y	US 2003/156178 A1 (LEHMANN UDO [DE]) 21 August 2003 (2003-08-21)	4, 7, 13, 14, 38, 49-56
X	paragraphs [0008] - [0012], [0020] - [0032], [0038] - [0040], [0047], [0048]; [0067] - [0076], [0092] - [0097]; figures ----- -/--	34-36

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

29 February 2008

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11/03/2008

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2004/094260 A1 (SUMMERFIELD MARTIN RAYMOND [GB]) 20 May 2004 (2004-05-20) paragraphs [0009] - [0018]; figures	15, 16, 57, 58
X	DE 197 46 174 C1 (LEHMANN UDO DR [DE]) 8 July 1999 (1999-07-08) page 3, lines 22-67; figures	34-36
X	EP 0 834 784 A (OCE TECH BV [NL]) 8 April 1998 (1998-04-08) columns 2,3; figures	34-36
X	EP 0 097 134 A (MORANDI LEO OFF MEC [IT]) 28 December 1983 (1983-12-28) column 9, lines 12-20; figures	82, 83
A	EP 0 641 008 A (SONY CORP [JP]; KASEI OPTONIX [JP]; MITSUBISHI CHEM CORP [JP]) 1 March 1995 (1995-03-01) column 1, line 45 - column 4, line 46; figures	1-3
A	WO 2005/025828 A (MIRA DI ALGERI MARIS [IT]; CAMORANI CARLO ANTONIO [IT]) 24 March 2005 (2005-03-24) cited in the application the whole document	1-14, 22, 23
A	EP 1 593 513 A (KOENIG & BAUER AG [DE]) 9 November 2005 (2005-11-09) paragraphs [0009], [0010], [0016]; figures	1-7, 34-36

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2007/000419

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

1-23, 34-67, 82, 83
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-14,22,23,34-56

Method and apparatus for transferring a pattern of granular material by using heating means in transferring zone

2. claims: 15-21,57-67,82,83

Method and apparatus for applying a pattern of granular material by aggregating said granular material with a liquid phase

3. claims: 24,25,28,29,71-74

Method and apparatus for applying several different layers of granular material on a transferring surface

4. claims: 26,27,68-70,84,85

Method and apparatus for applying a granular material on a large surface

5. claims: 30-33,86-89

Method and apparatus for applying a pattern on an incoherent receiving surface and levelling said granular material

6. claim: 75

Element made of an internal dielectric material and an external electroconductive layer

7. claims: 76-81

Element comprising a tubular body of material transparent to thermal radiation

8. claims: 90,91

Method and apparatus for applying a pattern of granular material on a layer of incoherent material by contact

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/IB2007/000419

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6386696	B1	14-05-2002	AU 723381 B2 24-08-2000
			AU 6210196 A 20-02-1997
			CN 1144160 A 05-03-1997
			DE 19530284 A1 20-02-1997
			EP 0759582 A2 26-02-1997
			ES 2176381 T3 01-12-2002
			JP 9109541 A 28-04-1997
US 2003156178	A1	21-08-2003	AT 350220 T 15-01-2007
			AU 7381601 A 08-10-2001
			CA 2404328 A1 30-09-2002
			WO 0172518 A1 04-10-2001
			DE 10191123 D2 05-06-2003
			EP 1268211 A1 02-01-2003
			JP 2003528751 T 30-09-2003
US 2004094260	A1	20-05-2004	GB 2376918 A 31-12-2002
DE 19746174	C1	08-07-1999	NONE
EP 0834784	A	08-04-1998	NL 1004179 C2 06-04-1998
			US 5988068 A 23-11-1999
EP 0097134	A	28-12-1983	DE 3366755 D1 13-11-1986
			ES 8504557 A1 16-07-1985
EP 0641008	A	01-03-1995	WO 9420974 A1 15-09-1994
WO 2005025828	A	24-03-2005	NONE
EP 1593513	A	09-11-2005	DE 102004022230 A1 08-12-2005