

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
4 January 2001 (04.01.2001)

PCT

(10) International Publication Number
WO 01/00331 A3

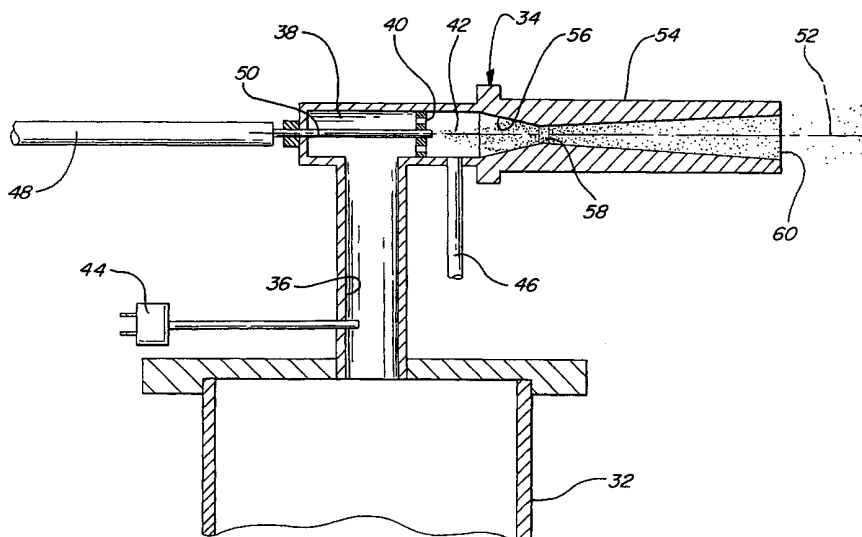
- (51) International Patent Classification⁷: B05D 1/02 (74) Agents: FILDES, Christopher, J. et al.; Fildes & Outland, P.C., 20916 Mack Avenue, Suite 2, Grosse Pointe Woods, MI 48236 (US).
- (21) International Application Number: PCT/US00/17291
- (22) International Filing Date: 22 June 2000 (22.06.2000) (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
09/343,016 29 June 1999 (29.06.1999) US
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- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- With international search report.
- Before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments.

[Continued on next page]

(54) Title: KINETIC SPRAY COATING METHOD AND APPARATUS



(57) Abstract: A method and apparatus is disclosed for kinetic spray coating of substrate surfaces by impingement of air or gas entrained powders of small particles in a range up to at least 106 microns accelerated to supersonic velocity in a spray nozzle. Preferably powders of metals, alloys, polymers and mixtures thereof or with semiconductors or ceramics are entrained in unheated air and passed through an injection tube into a larger flow of heated air for mixing and acceleration through a supersonic nozzle for coating of an article by impingement of the yieldable particles. A preferred apparatus includes a high pressure air supply carrying entrained particles exceeding 50 microns through an injection tube into heated air in a mixing chamber for mixing and acceleration in the nozzle. The mixing chamber is supplied with high pressure heated air through a main air passage having an area ratio relative to the injection tube of at least 80/1.



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(88) Date of publication of the international search report:
17 May 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/17291

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B05D1/02

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)

IPC 7 B05D C23C B05B

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)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 302 414 A (ALKHIMOV ANATOLY P ET AL) 12 April 1994 (1994-04-12) cited in the application column 3, line 53 -column 4, line 20 example 6 figure 5	1-4
A,P	--- DE 198 05 402 A (DEUTSCH ZENTR LUFT & RAUMFAHRT) 12 August 1999 (1999-08-12) claims; figure 1 -----	1,6

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Patent family members are listed in annex.

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- * & * document member of the same patent family

Date of the actual completion of the international search

7 March 2001

Date of mailing of the international search report

15/03/2001

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INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/US 00/17291

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