



(51) International Patent Classification:
B22F 3/16 (2006.01)

(21) International Application Number:
PCT/SG2011/000393

(22) International Filing Date:
4 November 2011 (04.11.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/411,317 8 November 2010 (08.11.2010) US

(71) Applicant (for all designated States except US): **AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH** [SG/SG]; 1 Fusionpolis Way, #20-10 Connexis, Singapore 138632 (SG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ZHANG, Su, Xia** [SG/SG]; c/o Singapore Institute of Manufacturing Technology, 71 Nanyang Drive, Singapore 638075 (SG). **LI,**

Tao [SG/SG]; c/o Singapore Institute of Manufacturing Technology, 71 Nanyang Drive, Singapore 638075 (SG). **ONG, Zi, Yan** [SG/SG]; c/o Singapore Institute of Manufacturing Technology, 71 Nanyang Drive, Singapore 638075 (SG). **BAI, Yonghui** [SG/SG]; c/o Singapore Institute of Manufacturing Technology, 71 Nanyang Drive, Singapore 638075 (SG).

(74) Agent: **POH, Chee, Kian, Daniel**; Marks & Clerk Singapore LLP, Tanjong Pagar, P.O. Box 636, Singapore 910816 (SG).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ,

[Continued on next page]

(54) Title: A METHOD OF FORMING AN OBJECT USING POWDER INJECTION MOLDING

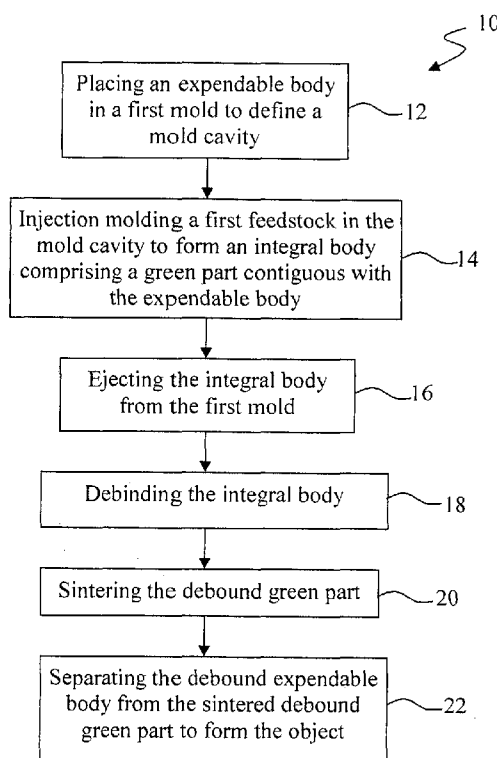


FIG. 1

(57) Abstract: A method of forming an object by powder injection molding, the object being formed from an injection molded integral body comprising a green part contiguous with an expendable part, the method comprising debinding the integral body at step 18 to obtain a debound green part contiguous with a debound expendable part; sintering the debound green part at step 20 at a sintering temperature, the debound expendable part configured to at least partially define the debound green part and has a melting point higher than the sintering temperature; and separating the debound expendable part from the sintered debound green part at step 22 to form the object.



TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS,

Declarations under Rule 4.17:

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*