



(51) International Patent Classification:

B23K 26/34 (2014.01) **B23K 9/04** (2006.01)
B23K 35/22 (2006.01)

(21) International Application Number:

PCT/CA2012/001118

(22) International Filing Date:

5 December 2012 (05.12.2012)

(25) Filing Language:

English

(26) Publication Language:

English

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(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, BN, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU,
RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA,
ZM, ZW.

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

Declarations under Rule 4.17:

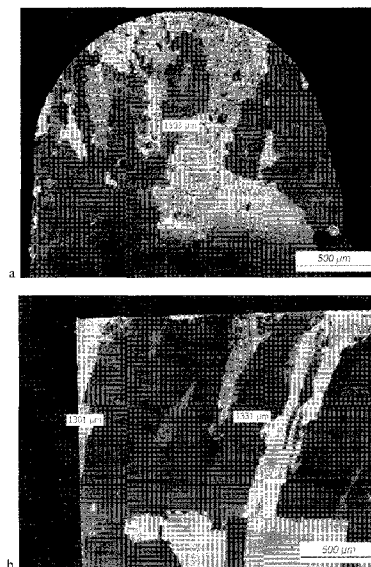
- as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii))
- of inventorship (Rule 4.17(iv))

Published:

- with international search report (Art. 21(3))

(54) Title: METHOD OF CLADDING AND FUSION WELDING OF SUPERALLOYS USING COMPOSITE FILLER POWDER

FIGURE 1



(57) Abstract: The present concept is a method of cladding and fusion welding of superalloys and includes the steps of firstly ap-
plication of a composite filler powder that comprises 5- 50% by weight brazing powder which includes melting point depressants,
and 50-95% by weight high temperature welding powder, to a superalloy base material. Secondly there is simultaneous heating of
the base material and the composite filler powder by a welding heat source that is movable relative to the base material. There is
heating to a temperature that will fully melt the brazing powder and at least partially melt the high temperature welding powder and
also melt a surface layer of the base material, thereby forming a weld pool. Thirdly upon solidification and cooling of the weld pool,
there is coalescence between a weld bead and the base material.