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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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, 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, SA, 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.

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(54) **Title:** METHOD OF MASKING APERTURES IN A COMPONENT AND PROCESSING THE COMPONENT

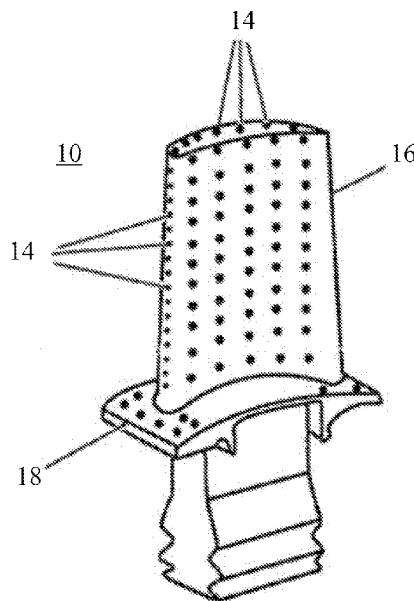


Fig. 1

(57) **Abstract:** The present invention relates to a method of processing a component, wherein the component comprises at least one opening in a surface thereof, the method comprising: placing the component in an electrophoretic fluid comprising particles of a masking material as an electrode, applying a voltage to the component and a counter electrode of the component, depositing particles of the masking material in the electrophoretic fluid into the at least one aperture through electrophoresis to mask the at least one aperture; processing a surface of the component; and removing the masking material in the at least one opening.



**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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**A. CLASSIFICATION OF SUBJECT MATTER****F01D 5/00(2006.01)i, F01D 5/28(2006.01)i, F01D 5/18(2006.01)i**

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)  
F01D 5/00; B05D 5/00; C23C 16/00; C25D 13/00; C25D 13/02; F01D 5/18; F01D 5/28Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
Korean utility models and applications for utility models  
Japanese utility models and applications for utility modelsElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
eKOMPASS(KIPO internal) & Keywords: gas turbine, blade, cooling, aperture, electroporetic and mask**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005-0191422 A1 (FERNIHOUGH, JOHN et al.) 01 September 2005 See paragraphs [0046]-[0074]; claims 1, 5, 10, 14, 20, 27-28; and figures 1-3 f.	1-10
Y	US 2010-0086680 A1 (CREECH, GEORGE EDWARD et al.) 08 April 2010 See paragraphs [0057], [0077] and figures 6-9.	1-10
Y	US 5976337 A (KORINKO, PAUL STEPHEN et al.) 02 November 1999 See column 4, lines 23-29; column 5, lines 38-56; and figures 2-6.	5,10
A	KR 10-2015-0011710 A (SAMSUNG TECHWIN CO., LTD.) 02 February 2015 See paragraphs [0018]-[0052] and figures 2-9g.	1-10
A	JP 2003-172102 A (ISHIKAWAJIMA HARIMA HEAVY IND CO., LTD.) 20 June 2003 See paragraphs [0020]-[0031] and figures 1-3.	1-10

 Further documents are listed in the continuation of Box C. See patent family annex.

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"&amp;" document member of the same patent family

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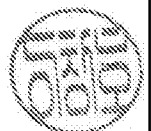
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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2019/017232**

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