



(51) International Patent Classification:

C23C 16/455 (2006.01) **B26B 21/60** (2006.01)
B05D 1/00 (2006.01) **C23C 16/46** (2006.01)

(21) International Application Number:

PCT/US2013/075977

(22) International Filing Date:

18 December 2013 (18.12.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

13/723,449 21 December 2012 (21.12.2012)

US

(71) **Applicant:** THE GILLETTE COMPANY [US/US];
World Shaving Headquarters, IP/Legal Patent Department
- 3E, One Gillette Park, Boston, Massachusetts 02127
(US).

(72) **Inventors:** ZHUK, Andrew, Vladimirovich; One Gillette
Park, Boston, Massachusetts 02127 (US). SONNEN-
BERG, Neville; One Gillette Park, Boston, Massachusetts
02127 (US).

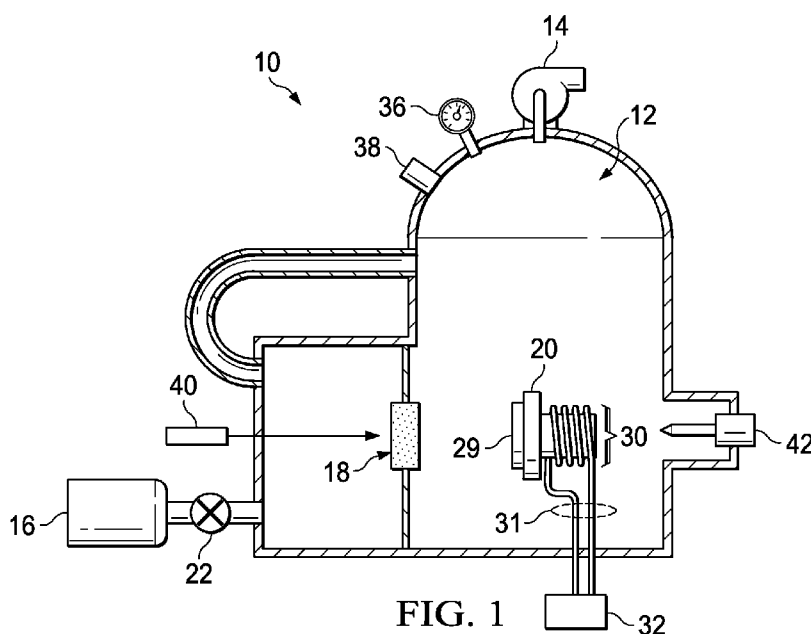
(74) **Agent:** GUFFEY, Timothy B.; The Procter & Gamble
Company, Global Patent Services, 299 East 6th Street, Sy-
camore Building, 4th Floor, Cincinnati, Ohio 45202 (US).

(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, IR, IS, JP, KE, KG, 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, 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.

(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,
KM, ML, MR, NE, SN, TD, TG).

Published:

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

(54) **Title:** CHEMICAL VAPOR DEPOSITION OF FLUOROCARBON POLYMERS

(57) **Abstract:** Provided is a method for forming a fluorocarbon polymer on a surface of a structure. A feedstock gas is directed through a porous heat member having a temperature sufficient to crack the feedstock gas and produce a reactive species that includes $(CF_2)_n$ wherein $n = 1$ or 2 radicals in the vicinity of a structure surface on which the fluorocarbon polymer is to be formed. The structure surface is maintained at a temperature lower than that of the porous heat member to induce deposition and polymerization of the $(CF_2)_n$ wherein $n = 1$ or 2 radicals on the structure surface.