

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
29 March 2007 (29.03.2007)

PCT

(10) International Publication Number
WO 2007/035511 A3

(51) International Patent Classification:

H01M 8/02 (2006.01) **F15D 1/04** (2006.01)
B05D 5/12 (2006.01)

(21) International Application Number:

PCT/US2006/036081

(22) International Filing Date:

15 September 2006 (15.09.2006)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

11/228,866	16 September 2005 (16.09.2005)	US
11/229,080	16 September 2005 (16.09.2005)	US
11/229,478	16 September 2005 (16.09.2005)	US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

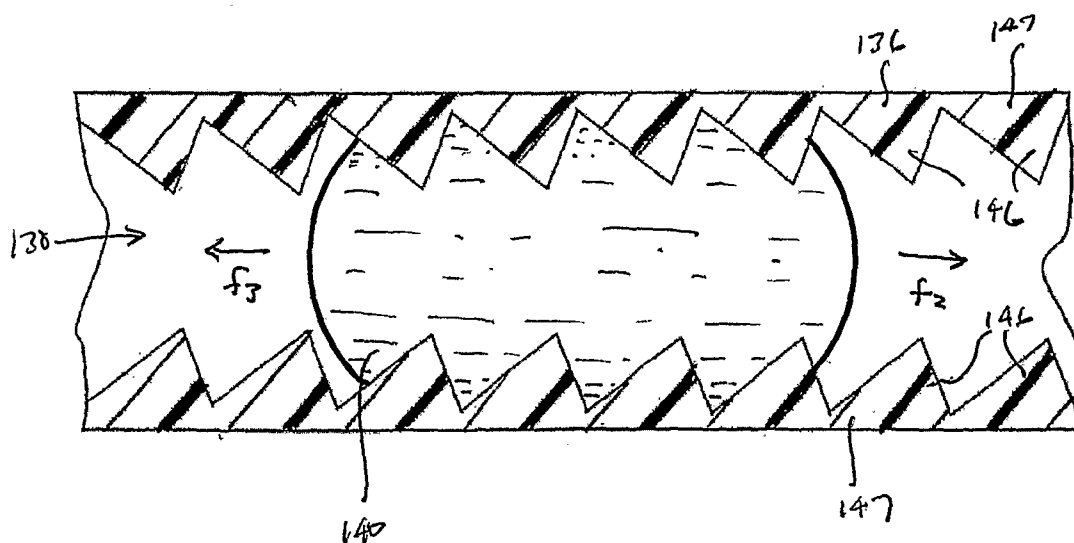
- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:

29 November 2007

[Continued on next page]

(54) Title: FLUID HANDLING DEVICE WITH DIRECTIONALLY-BIASED WETTING SURFACE



(57) Abstract: A fluid handling device with an anisotropic wetting surface including a substrate with a multiplicity of asymmetric substantially uniformly shaped asperities thereon. Each asperity has a first asperity rise angle and a second asperity rise angle relative to the substrate. The asperities are structured to present a desired retentive force ratio (f_1/f_2) greater or less than unity caused by asymmetry between the first asperity rise angle and the second asperity rise angle according to the formula: $f_3/f_2 = \sin(\omega_3 + 1/2\Delta\theta_0)/\sin(\omega_2 + 1/2\Delta\theta_0)$.

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