

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
17 April 2008 (17.04.2008)

PCT

(10) International Publication Number
WO 2008/045243 A1

(51) International Patent Classification:
F28D 7/16 (2006.01) *F28F 9/013* (2006.01)

(21) International Application Number:
PCT/US2007/021175

(22) International Filing Date: 2 October 2007 (02.10.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/849,768 6 October 2006 (06.10.2006) US

(71) Applicant (for all designated States except US): **EXXON-MOBIL RESEARCH AND ENGINEERING COMPANY** [US/US]; 1545 Route 22 East, P.O. Box 900, Annandale, NJ 08801-0900 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WANNI, Amar, S.** [US/US]; 8131 Shadwell Park Lane, Falls Church, VA 22042 (US). **RUDY, Thomas, M.** [US/US]; 8336 Stable Gate Road, Warrenton, VA 20186 (US).

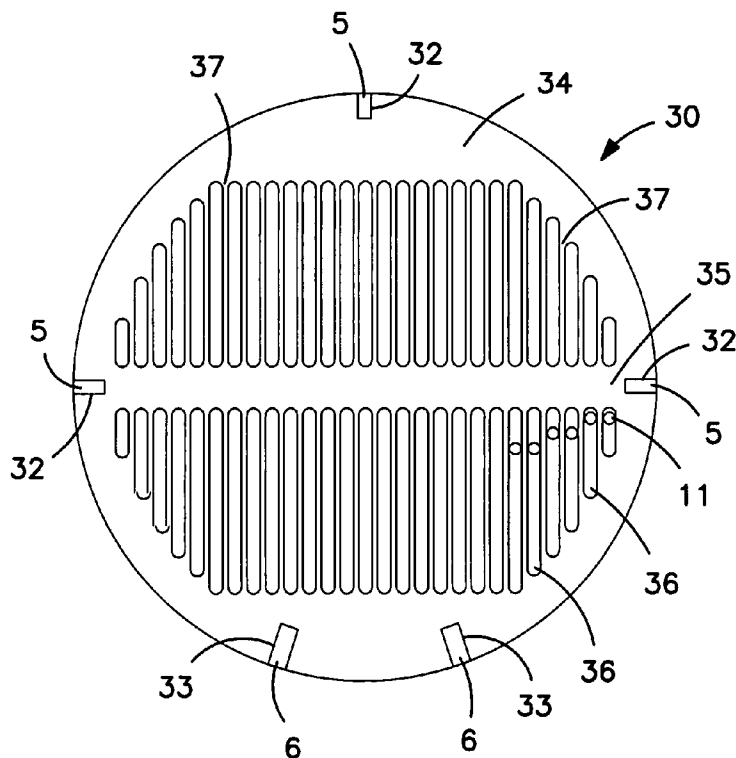
(74) Agents: **BAKUN, Estelle, C.** et al.; Exxonmobil Research and Engineering Company, 1545 Route 22 East, P.O. Box 900, Annandale, NJ 08801-0900 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, 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, 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, MT, NL, PL,

[Continued on next page]

(54) Title: REDUCED VIBRATION TUBE BUNDLE DEVICE HAVING SLOTTED BAFFLES



(57) Abstract: A slotted support baffle and a blocking baffle are disclosed for a tube bundle device. The baffles include blocking areas, which redirect the flow of fluid within the tube bundle device to improve heat transfer. The slotted support baffle includes a slot and rib structure which supports the tubes of the tube bundle. The support baffles may be used in combination with elongated tube supports.

WO 2008/045243 A1



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

— *before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments*

Published:

— *with international search report*