

(51) International Patent Classification:
F25J 3/00 (2006.01)(21) International Application Number:
PCT/US2010/062402(22) International Filing Date:
29 December 2010 (29.12.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/295,119 14 January 2010 (14.01.2010) US
12/979,563 28 December 2010 (28.12.2010) US(71) Applicant (for all designated States except US): **ORT-LOFF ENGINEERS, LTD.** [US/US]; 415 West Wall, Suite 200, Midland, TX 79701 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PIERCE, Michael, C.** [US/US]; 1650 Parkdale Circle North, Erie, CO 80516 (US). **WILKINSON, John, D.** [US/US]; 4113 Tanforan Avenue, Midland, TX 79707 (US). **HUDSON, Hank, M.** [US/US]; 2508 W. Sinclair Avenue, Midland, TX 79705 (US).(74) Agent: **RUSSO, Alicia, A.**; Fitzpatrick, Cella, Harper & Scinto, 1290 Avenue Of The Americas, New York, NY 10104-3800 (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, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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).

Published:

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

(54) Title: HYDROCARBON GAS PROCESSING

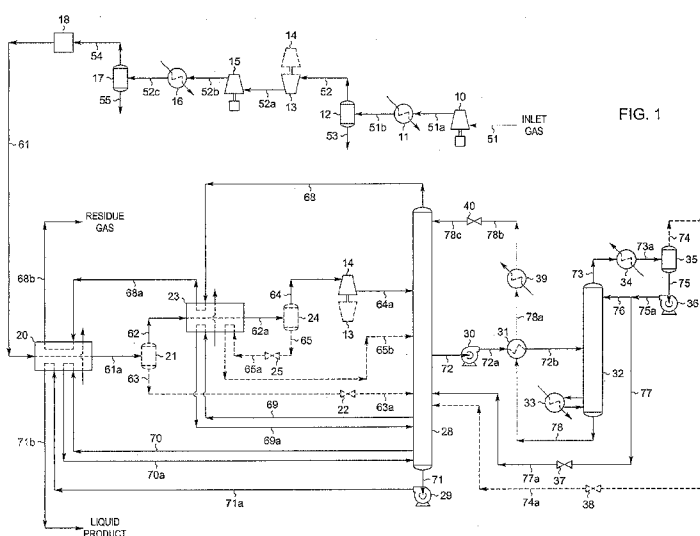


FIG. 1

(57) Abstract: A process and an apparatus are disclosed for recovering ethane, ethylene, and heavier hydrocarbon components from a hydrocarbon gas stream. The stream is cooled, expanded to lower pressure, and supplied to a first fractionation tower at a mid-column feed position. A distillation liquid stream is withdrawn from the first fractionation tower below the feed position of the expanded stream, heated, and directed into a second fractionation tower that produces an overhead vapor stream and a bottom liquid stream. The overhead vapor stream is cooled to condense it, with a portion of the condensed stream directed to the second fractionation tower as its top feed and the remainder directed to the first fractionation tower at a lower column feed position. The bottom liquid stream from the second fractionation tower is cooled and directed to the first fractionation tower as its top feed.