

(43) International Publication Date
28 April 2011 (28.04.2011)(10) International Publication Number
WO 2011/049672 A1(51) International Patent Classification:
F25J 3/00 (2006.01)(21) International Application Number:
PCT/US2010/046967(22) International Filing Date:
27 August 2010 (27.08.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

61/244,181	21 September 2009 (21.09.2009)	US
61/346,150	19 May 2010 (19.05.2010)	US
61/351,045	3 June 2010 (03.06.2010)	US
12/868,993	26 August 2010 (26.08.2010)	US
12/869,139	26 August 2010 (26.08.2010)	US
12/869,007	26 August 2010 (26.08.2010)	US

(71) Applicant (for all designated States except US): **ORT-LOFF ENGINEER, LTD.** [US/US]; 415 W. Wall, Suite 2000, Midland, TX 79701 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MARTINEZ, Tony, L.** [US/US]; 2303 Bellechasse Court, Midland, TX 79705 (US). **WILKINSON, John, D.** [US/US]; 4113 Tanforan Avenue, Midland, TX 79707 (US). **LYNCH,****Joe, T.** [US/US]; 5510 Ashwood Ct., Midland, TX 79707 (US). **HUDSON, Hank, M.** [US/US]; 2508 W. Sinclair Avenue, Midland, TX 79705 (US). **CUELLAR, Kyle, T** [US/US]; 1611 Cottage Point Drive, Katy, TX 77494 (US).(74) Agent: **RUSSO, Alicia A.**; Fitzpatrick, Cella, Harper & Scinto, 1290 Avenue Of The Americas, New York, NY 10104-3800 (US).

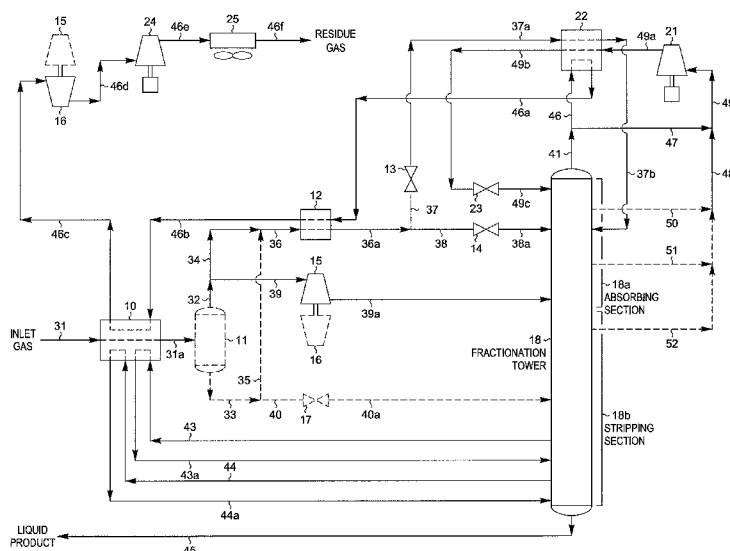
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, 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,

[Continued on next page]

(54) Title: HYDROCARBON GAS PROCESSING

FIG. 3



(57) Abstract: A process and an apparatus for recovering heavier hydrocarbons from a hydrocarbon gas stream is disclosed. The stream is cooled and divided into first and second streams. The first stream is further cooled and divided into first and second portions. The first and second portions are expanded to the fractionation tower pressure and supplied to the tower at upper mid-column feed positions after the expanded second portion is heated. The second stream is expanded to tower pressure and supplied at a mid-column feed position. A distillation vapor stream is withdrawn above the feed point of the second stream, combined with a portion of the tower overhead vapor stream, compressed to higher pressure, and cooled to condense at least a part of it, forming a condensed stream. At least a portion of the condensed stream is expanded to tower pressure and directed to the tower as its top feed.



LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, **Published:**
SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, — *with international search report (Art. 21(3))*
GW, ML, MR, NE, SN, TD, TG).