



(51) International Patent Classification:

B01D 50/00 (2006.01) **B01D 17/02** (2006.01)
B01D 47/00 (2006.01) **B01D 19/00** (2006.01)
B01D 45/00 (2006.01)

(21) International Application Number:

PCT/US2012/066820

(22) International Filing Date:

28 November 2012 (28.11.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20120060 19 January 2012 (19.01.2012) NO

(71) Applicant: CAMERON INTERNATIONAL CORPORATION [US/US]; 1333 West Loop South, Suite 1700, Houston, Texas 77027 (US).

(72) Inventor: FOLKVANG, Jorn; Asvallveien 52, N-3960 Stathelle (NO).

(74) Agent: ROSE, Collin A.; Chamberlain, Hrdlicka, White, Williams & Aughtry, 1200 Smith Street, 14th Floor, Houston, Texas 77002 (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, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

Published:

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

(54) Title: APPARATUS AND METHOD FOR SEPARATION OF HYDROCARBONS FROM HYDROCARBON-CONTAINING PRODUCED WATER

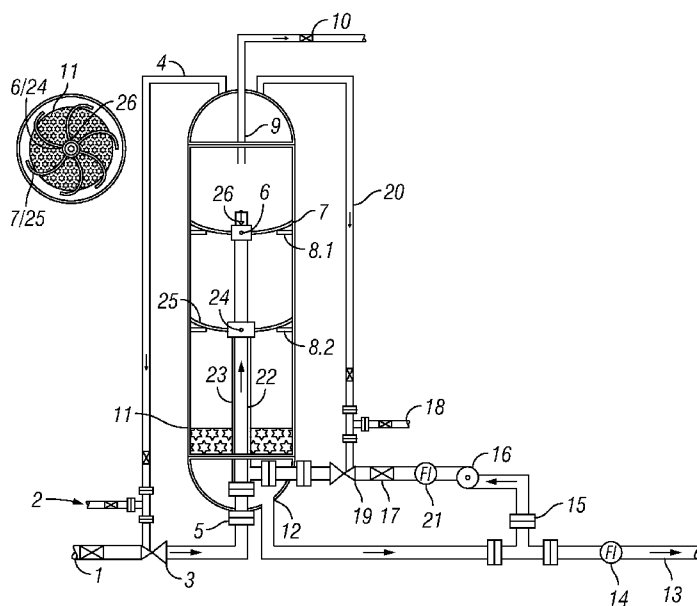


FIG. 1

(57) Abstract: The present invention relates to an apparatus for separation of hydrocarbons from hydrocarbon-containing produced water, comprising: a separator tank, at least one inlet tube (22, 27), at least one branch means (6) distributing the produced water stream, at least one outlet nozzle (7) and at least one guide vane (8.1) mounted under each outlet nozzle and leading water over the next outlet nozzle; at least one outlet (12) in the bottom of the tank for cleaned water and at least one outlet (9, 35, 36) rejecting rising gas with adherent oil droplets, at least one shroud (39) is arranged entirely or partly along the inside of at least one guide vane (8.1) in an angle of 30° to 150° related to the at least one guide vane (8.1). Further the invention relates to a process for separation of hydrocarbons from hydrocarbon-containing produced water.