

(51) International Patent Classification:
E21B 7/12 (2006.01)

(21) International Application Number:

PCT/US2013/049271

(22) International Filing Date:

3 July 2013 (03.07.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/667,549	3 July 2012 (03.07.2012)	US
61/679,303	3 August 2012 (03.08.2012)	US

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Tomball Parkway, Suite 600, Houston, TX 77070 (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, 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,

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(54) Title: TOP-TENSIONED RISER SYSTEM

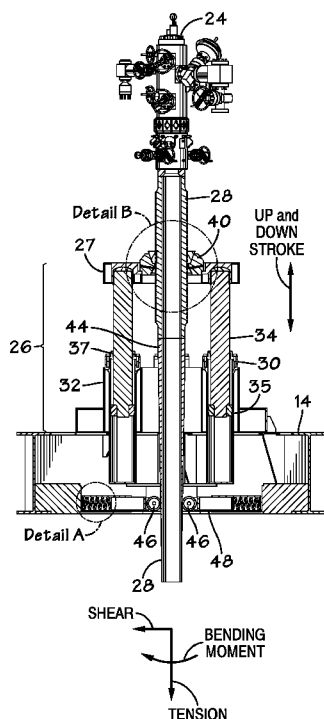


FIG. 2B

(57) Abstract: A top-tensioned riser (TTR) is supported by a tensioning system on the deck of a floating platform. The tension ring may include an elastomeric layer which permits small angular and lateral displacements of the tension joint. The tension joint comprises a tapered section to resist the bending moment and shear imposed by the vessel's motion. The riser tension joint may be supported laterally by rollers below the tension ring. The rollers react on the tapered section when the riser strokes up and down. The tapered section may be engineered to maximize the use of the tension joint, and to reduce bending moment and shear loads imposed on the tensioning system. In certain embodiments, there may be a small gap between the rollers and the tapered section. In certain other embodiments, the rollers may be spring-loaded to increase the stability of surface equipment on the upper terminus of the riser.



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

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

13 March 2014