

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
24 March 2022 (24.03.2022)



(10) International Publication Number
WO 2022/058872 A1

(51) International Patent Classification:
E21B 19/22 (2006.01)

(21) International Application Number:
PCT/IB2021/058324

(22) International Filing Date:
14 September 2021 (14.09.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
17/026,195 19 September 2020 (19.09.2020) US

(72) Inventor; and

(71) Applicant: **MARTIN, Kristian** [CA/CA]; 1105 Borden
Street, Prince Rupert, British Columbia V8J1V6 (CA).

(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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, 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, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, 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, ST, 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, KM, ML, MR, NE, SN, TD, TG).

Published:

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

(54) Title: BENDING APPARATUS FOR COILED TUBING

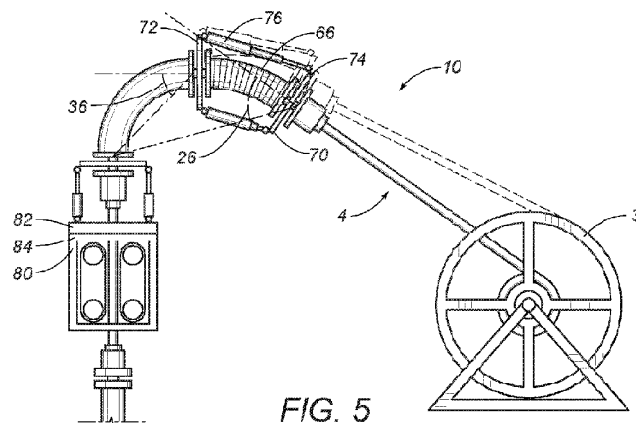


FIG. 5

(57) Abstract: A bending apparatus (10) for coiled tubing protects the entire path of coiled tubing from the reel to the injector, while still protecting a main controlled bend from the reel to the injector. The bending apparatus includes a conduit (20) and a table mount (80). The conduit (20) includes a bend portion (30) and a flexible portion (60). The main controlled bend is isolated in the bend portion (30), while a smaller adjustment bend is designed for the flexible portion (60). The changes in the upright angle from dispensing coiled tubing from different levels of the reel no longer cause damage. The changes in the lateral angle from dispensing coiled tubing from both sides of the reel no longer cause damage. A table mount (80) can also be added to allow more adjustment for changes in the lateral angle.



WO 2022/058872 A1