



(43) International Publication Date
20 March 2014 (20.03.2014)

(51) International Patent Classification:

F17D 5/02 (2006.01) **F17D 3/01 (2006.01)**
F16L 55/26 (2006.01)

(21) International Application Number:

PCT/US2013/058901

(22) International Filing Date:

10 September 2013 (10.09.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

13/617,265 14 September 2012 (14.09.2012)

US

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(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, SA, 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*

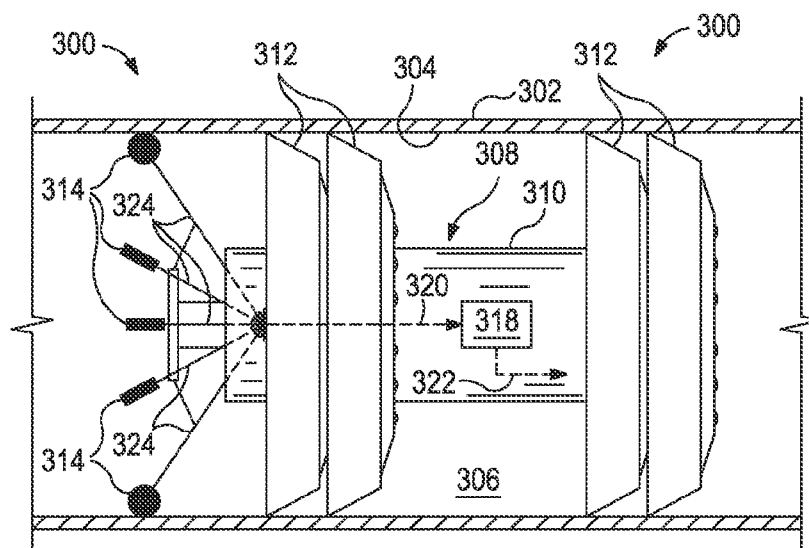
kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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))*

[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR INSPECTING AND MONITORING A PIPELINE



(57) Abstract: Disclosed are systems and methods for inspecting and monitoring an inner surface of a pipeline. One system includes a pig arranged within the pipeline, the pipeline being divided into first and second radial divisions, and first and second sets of optical computing devices arranged on the pig adjacent the inner surface of the pipeline, the first set being configured to monitor a first substance on the first radial division and the second set being configured to monitor a second substance on the second radial division. Each optical computing device includes an integrated computational element configured to optically interact with the first or second substance and thereby generate optically interacted light, and at least one detector arranged to receive the optically interacted light and generate an output signal corresponding to a characteristic of the first or second substance.

WO 2014/043070 A1



Published:

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