

(51) International Patent Classification:
G01F 1/84 (2006.01)(21) International Application Number:
PCT/US2009/046838(22) International Filing Date:
10 June 2009 (10.06.2009)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US): **MICRO MOTION, INC.** [US/US]; 7070 Winchester Circle, Boulder, CO 80301 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **VAN CLEVE, Craig, Brainerd** [US/US]; 2921 Stagecoach Trail, P.O. Box 1382, Lyons, CO 80540 (US).(74) Agents: **WILBERT, David, W.** et al.; The Ollila Law Group LLC, 2569 Park Lane, Suite 202, Lafayette, Colorado 80026 (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, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, 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))

Published:

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

(54) Title: BALANCE SYSTEM FOR A VIBRATING FLOW METER

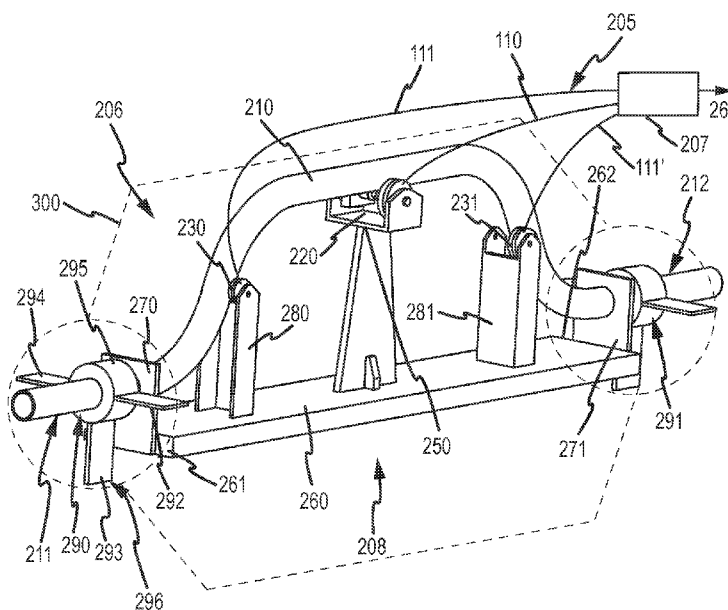


FIG. 2

(57) Abstract: According to the present invention, a vibrating flow meter and method of operating a vibrating flow meter are provided. The vibrating flow meter includes a conduit (210), at least one pick-off (230, 231), a driven member (250), at least one driver (220), and a base (260). The conduit (210) defines a fluid flow path. The at least one pick-off (230, 231) measures the motion of the conduit (210). The at least one driver (220) vibrates the conduit (210) and the driven member (250) in phase opposition. The base (260) is coupled to the conduit (210) and the driven member (250) and switches between remaining substantially stationary or moving substantially in phase with the conduit (210) or moving substantially in phase with the driven member (250) in order to balance the motion of the conduit (210) and the driven member (250).