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

(72) Inventor; and

(75) Inventor/Applicant (for US only): **STACK, Charles, Paul** [US/US]; 5412 Brookside Drive, Broomfield, Colorado 80020 (US).

(74) Agents: **JANSEN, Gregg, L.** et al.; THE OLLILA LAW GROUP LLC, 2060 Broadway, Suite 300, Boulder, Colorado 80302 (US).

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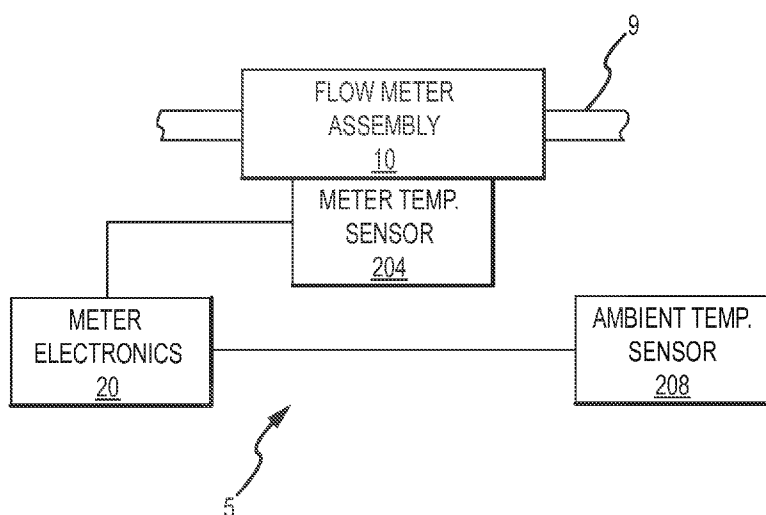


FIG. 2

(57) Abstract: A vibratory flow meter (5) for determining a derived fluid temperature $T_{f-deriv}$ of a flow material is provided according to the invention. The vibratory flow meter (5) includes a flow meter assembly (10) including one or more flow conduits (103), a meter temperature sensor (204) configured to measure a meter temperature T_m , an ambient temperature sensor (208) for measuring an ambient temperature T_a , and meter electronics (20) coupled to the meter temperature sensor (204) and to the ambient temperature sensor (208). The meter electronics (20) is configured to receive the meter temperature T_m and the ambient temperature T_a and determine the derived fluid temperature $T_{f-deriv}$ of the flow material in the vibratory flow meter (5) using the meter temperature T_m and the ambient temperature T_a .