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Sgourakes

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- (54) **DIFFERENTIAL PRESSURE GENERATOR**
- (75) **Inventor:** **George E. Sgourakes, Millis, MA (US)**
- (73) **Assignee:** **AVGI Engineering, Inc., Millis, MA (US)**
- (*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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Primary Examiner—Robert Raevis
(74) *Attorney, Agent, or Firm*—John L. Lee

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Related U.S. Application Data

- (63) Continuation-in-part of application No. 09/545,583, filed on Apr. 7, 2000.
- (51) **Int. Cl.⁷** **G01L 27/00**
- (52) **U.S. Cl.** **73/1.68**
- (58) **Field of Search** 73/1.57, 1.65, 73/1.68, 1.69; 417/211, 244, 245, 328, 460, 469; 92/110, 112, 117 R, 117 A

(57) **ABSTRACT**

Differential pressure generator **100** includes a stacked pair of opposed novel gravity transducers of the inverted-cup falling-cylinder type. First enclosure **21** contains a first gravity transducer **23** and second enclosure **31** contains a second gravity transducer **33**. First gravity transducer **23** includes first cylinder **24**, and first piston **25**. The first cylinder is mounted for gravity-driven, viscosity-limited motion with respect to the first piston to generate a first pressure difference. The second gravity transducer includes a second cylinder and a second piston. The second cylinder is mounted for gravity-driven, viscosity-limited motion with respect to the second piston to generate a second pressure difference. The first cylinder has a displacement volume that is equal to the displacement volume of the second cylinder, and the first cylinder is heavier than the second cylinder. The first pressure difference and the second pressure difference are summed in opposition to produce a reference differential pressure.

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27 Claims, 26 Drawing Sheets

