

[54] **DIFFERENTIAL MICROCALORIMETER**

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[58] Field of Search **23/253 R; 73/15 B, 190**

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[57] **ABSTRACT**

A differential microcalorimeter having a pair of cylindrical thermopiles with a tubular test cell, axially car-

ried within each thermopile. Each thermopile is fitted into an internally cylindrical, externally tapered, longitudinally segmented sleeve. The sleeve is fitted into a tapered well in a heat sink. Pressure against the sleeve to thrust it into the well reduces its diameter to more effectively grip the thermopile. The thermopile is a laminated arrangement of spacers and disk-shaped thermocouple members. Each spacer includes an inner ring gripping the core, an outer ring gripped by the wall of the sleeve and an intermediate insulator washer. Each thermocouple member consists of a disk-shaped insulator about which thermocouple wires are wrapped with the inner edge of the wires being supported upon the inner rings of the spacers and the outer edges supported upon the outer rings thereof. To effectively transmit heat from the core to the inner spacer rings through the wires to the outer spacer rings and to the heat sink, the inner spacer rings are slotted and tightly grip the core of the thermopile. The outer spacer rings are also slotted, and each outer spacer ring is thereby tightly gripped by the sleeve when the sleeve is reduced in diameter regardless of the possibility of variations in the outside diameter of the outer spacer rings. The spacer rings are anodized to insulate them from the thermocouple wires which rest against them.

8 Claims, 10 Drawing Figures

