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United States Patent [19]

[11] Patent Number: **5,746,206**

Mannheimer

[45] Date of Patent: ***May 5, 1998**

[54] **ISOLATED LAYER PULSE OXIMETRY**

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5,057,695	10/1991	Hirao et al.	128/633
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5,524,617	6/1996	Mannheimer	128/633

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[*] Notice: The term of this patent shall not extend beyond the expiration date of Pat. No. 5,524,617

[21] Appl. No.: **662,439**

[22] Filed: **Jun. 10, 1996**

FOREIGN PATENT DOCUMENTS

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WO 92/21283	12/1992	WIPO

Related U.S. Application Data

[63] Continuation of Ser. No. 403,642, Mar. 14, 1995, Pat. No. 5,524,617.

[51] Int. Cl.⁶ **A61B 5/00**

[52] U.S. Cl. **125/633; 356/39**

[58] Field of Search **128/633, 664, 128/665; 356/41**

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Assistant Examiner—Eric F. Winakur
Attorney, Agent, or Firm—Nawrocki, Rooney & Sivertson

[57] ABSTRACT

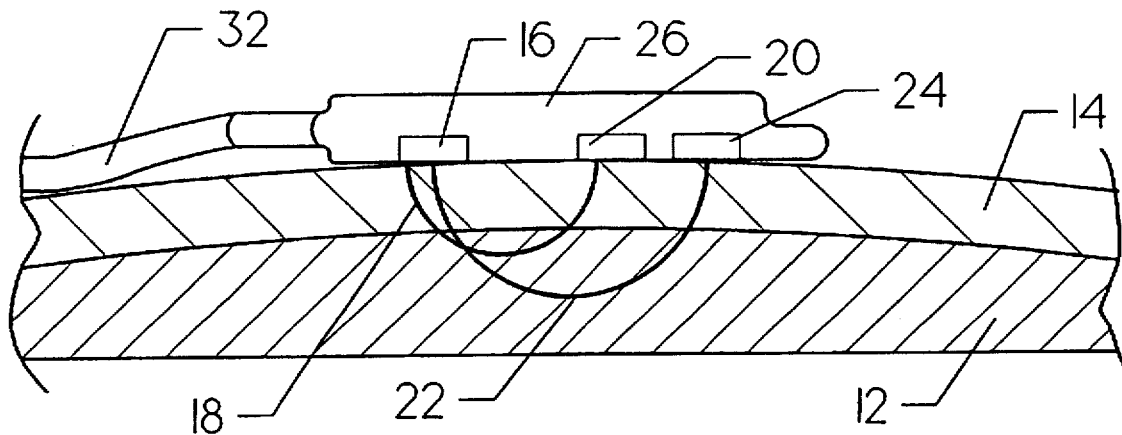
An apparatus of and method for measuring arterial blood oxygen saturation at a particular tissue level of interest. Visible and near infrared radiation is emitted into a patient at the measurement site using two different wavelengths. Detection at two different detection sites permits rejection of oxygen saturation at undesired tissue levels.

[56] References Cited

U.S. PATENT DOCUMENTS

4,700,708 10/1987 New, Jr. et al. 128/633

6 Claims, 8 Drawing Sheets



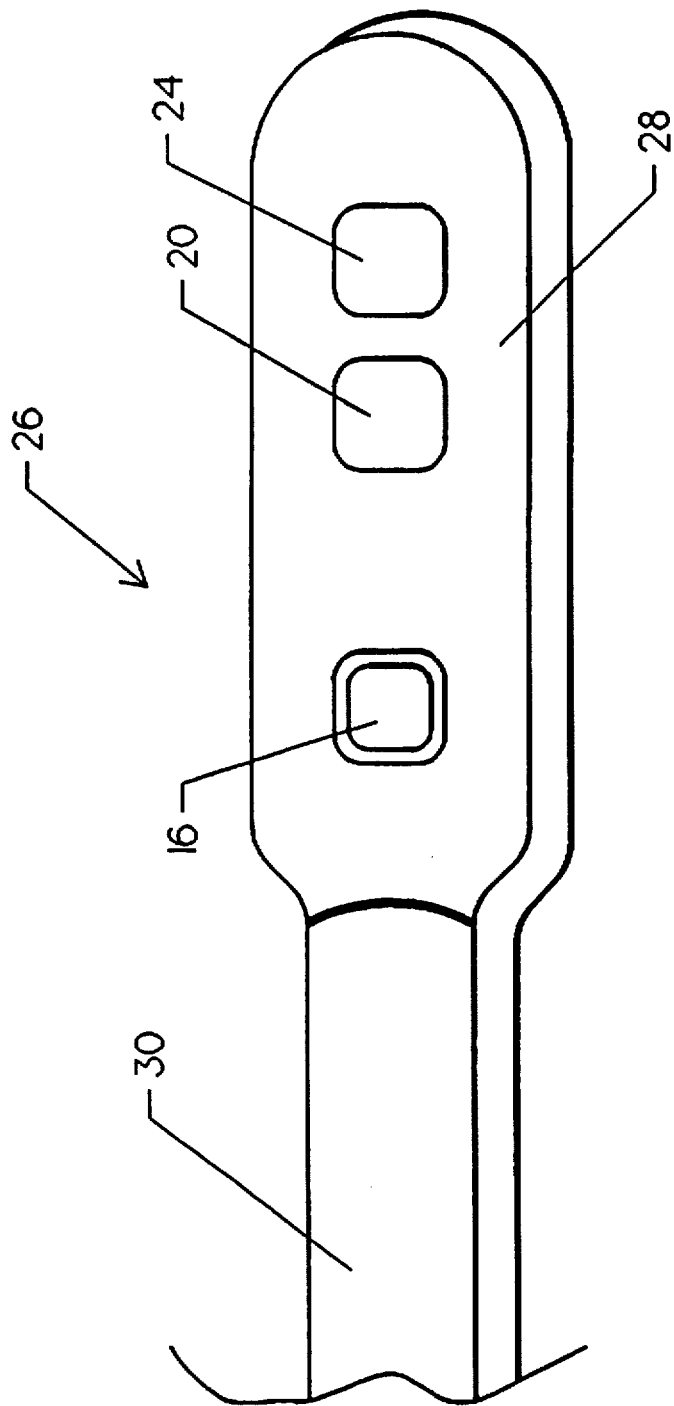


FIG. 2

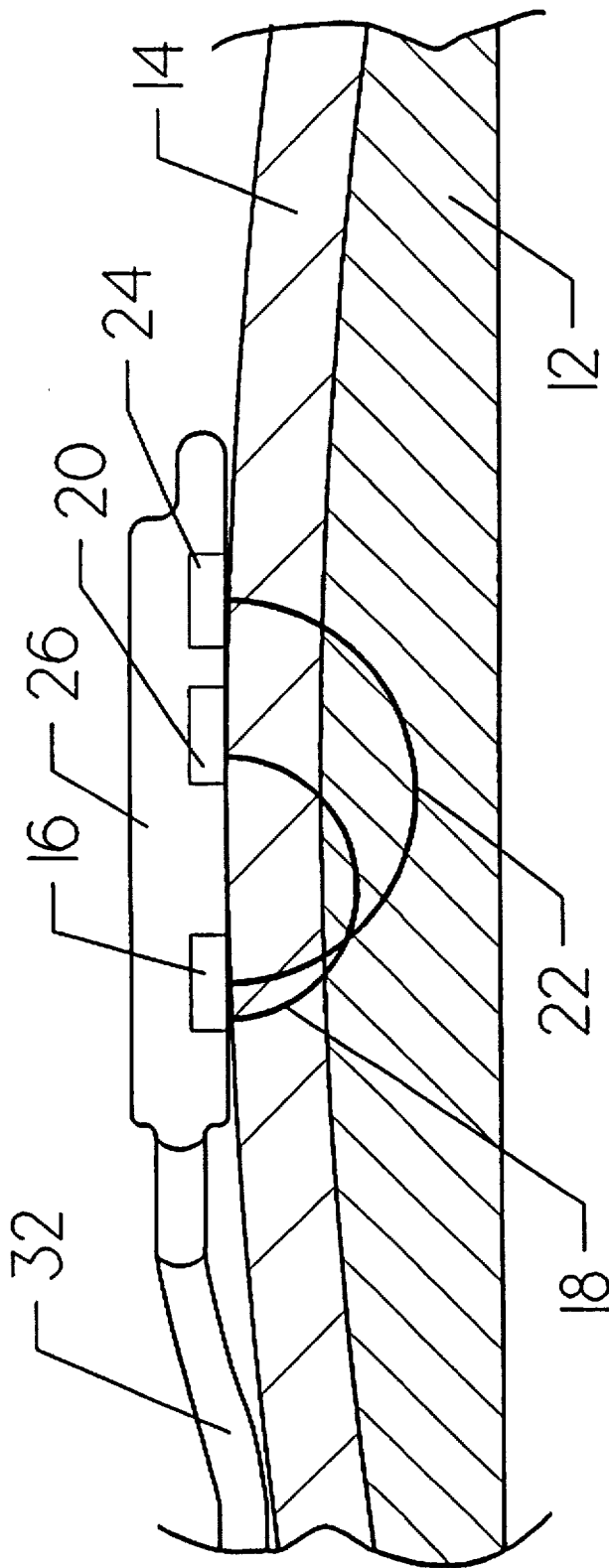


FIG. 3

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