United States Patent [19]

New, Jr. et al.

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[54] **CALIBRATED OPTICAL OXIMETER PROBE**

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[*] Notice: The portion of the term of this patent subsequent to Nov. 11, 2003 has been disclaimed.

[21] Appl. No.: **911,978**

[22] Filed: **Sep. 26, 1986**

Related U.S. Application Data

[63] Continuation of Ser. No. 827,478, Feb. 5, 1986, Pat. No. 4,621,643, which is a continuation of Ser. No. 695,402, Jan. 24, 1985, abandoned, which is a continuation of Ser. No. 414,176, Sep. 2, 1982, abandoned.

[51] Int. Cl.^{4} **A61B 5/00**
[52] U.S. Cl. **128/633**; 356/41; 250/252.1
[58] Field of Search .... 128/633, 634, 664–666; 73/1 R; 356/39–42; 280/252.1

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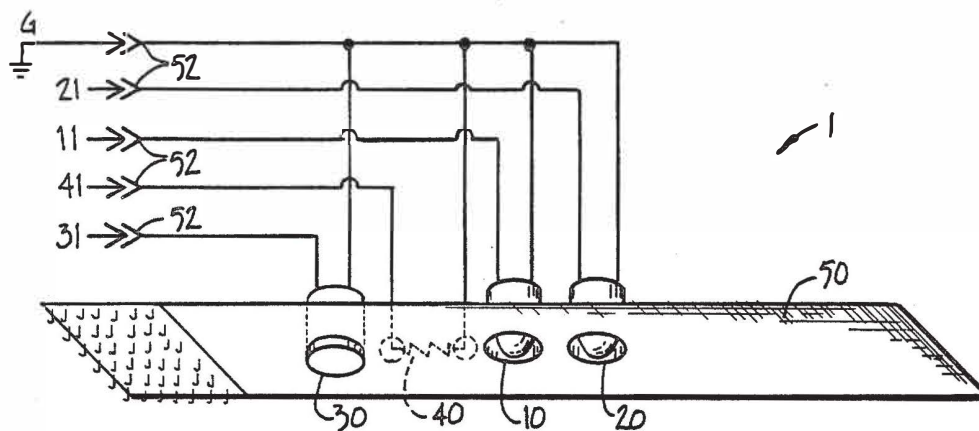Schibli et al., IEEE Trans. of Biomed. Engr., vol. BME–25, No. 1, Jan. 1978, pp. 94–96.

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Assistant Examiner—John C. Hanley

[57] **ABSTRACT**

A probe apparatus for use with an optical oximeter is disclosed. A pair of light emitting diodes emit light of known narrow wavelengths through an appendage of a patient onto a photosensor. A resistor of coded known resistance is used to enable the oximeter to calculate the co-efficient of extinction of the wavelengths of the LEDs. The resistor, LEDs and photosensor are mounted on self-attaching hook and eye tape for mounting the probe onto the appendage of the patient. The probe is detachably wired to the oximeter, rendering the probe completely disposable. The oximeter is programmed at the factory to calculate the co-efficients of extinction of any LEDs which may be encountered in a series of disposable probes. From the co-efficients of extinction, the pulse rate and degree of arterial oxygen saturation is computed and displayed by the oximeter.
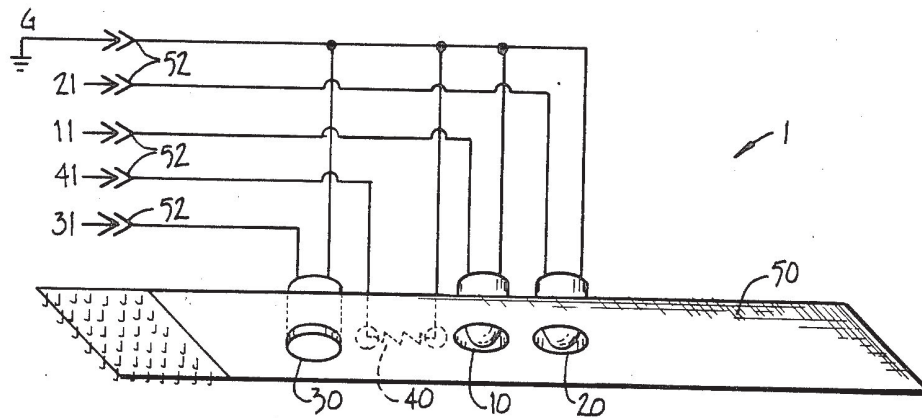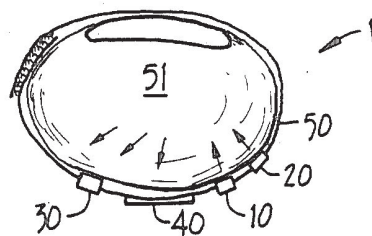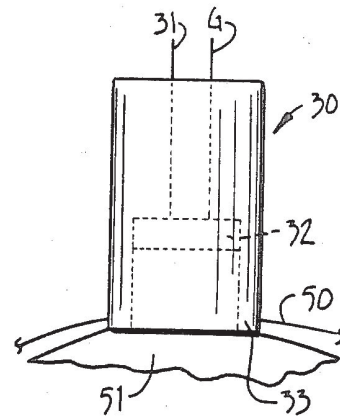
11 Claims, 6 Drawing Figures
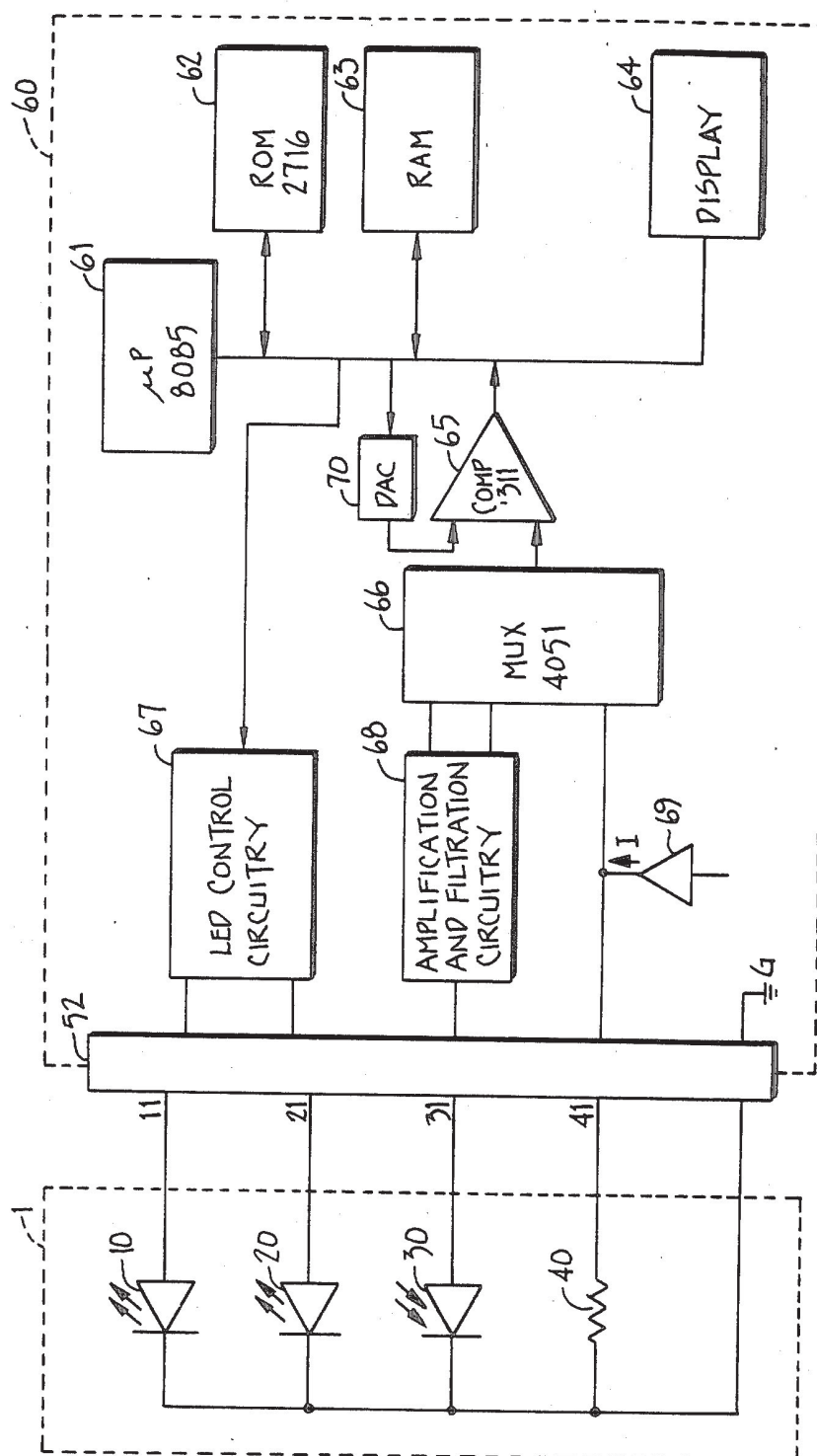
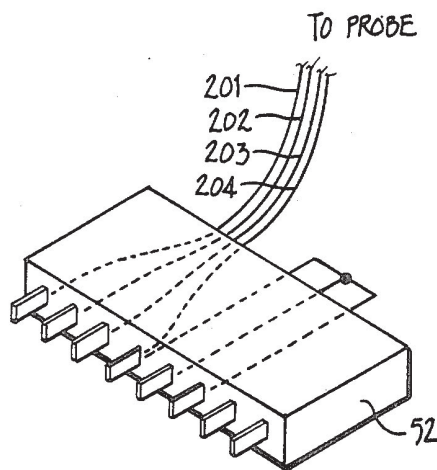FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

FIG. 6.

DOCKET ALARM
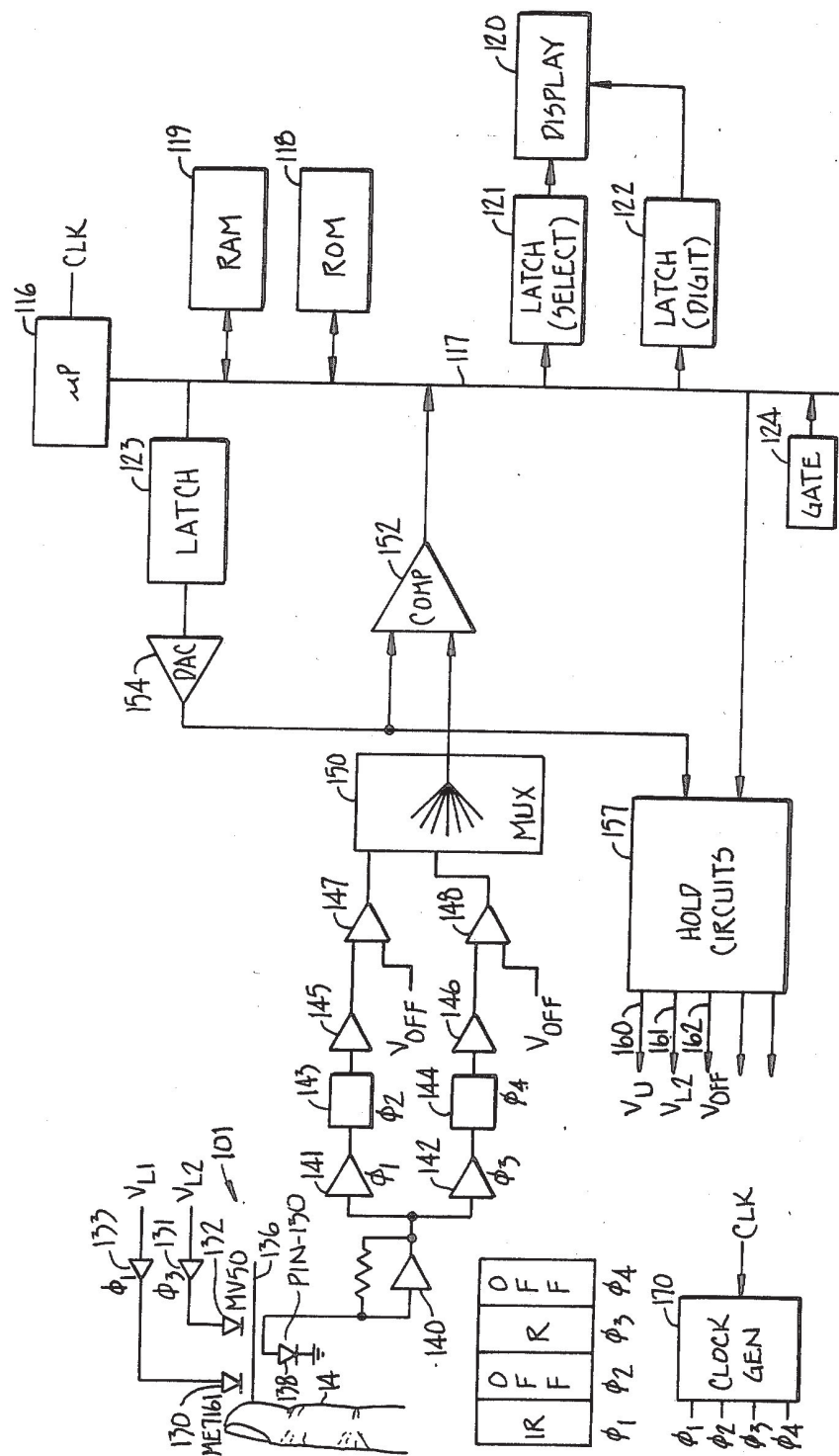
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