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Athan et al.

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[54] **PORTABLE PULSE OXIMETER**

[75] Inventors: **Stephan P. Athan**, Tampa; **John E. Scharf**, Oldsmar, both of Fla.

[73] Assignee: **University of South Florida**, Tampa, Fla.

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[51] Int. Cl.^{6} **A61B 5/02**
[52] **U.S. Cl.** **128/633**; 356/41
[58] **Field of Search** .... 128/633, 903; 356/41; 250/214 A, 214 L; 607/60

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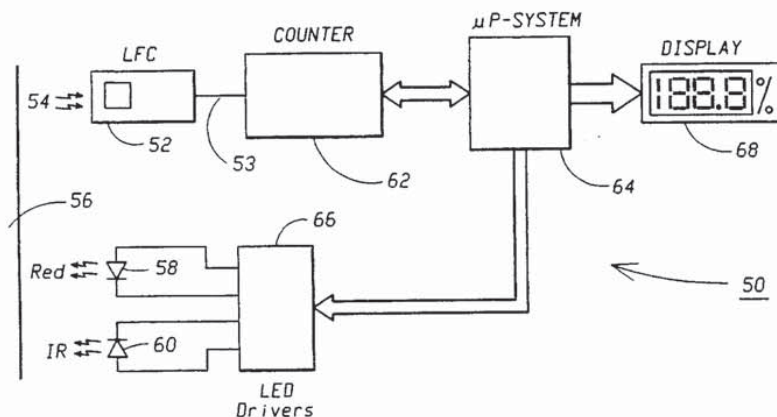
Primary Examiner—Angela D. Sykes
Assistant Examiner—Eric F. Winakur
Attorney, Agent, or Firm—Calfee, Halter & Griswold

[57] **ABSTRACT**

A diagnostic instrument for determining a cardiovascular system parameter. In one embodiment, the instrument takes the form of a portable pulse oximeter comprising a light to frequency converter (LFC) as a sensor. Also provided is a light to frequency converter comprising a photoresistor and capacitor in circuit communication with an inverting Schmitt trigger and configured such that the inverter generates a periodic electrical signal corresponding to the amount of electromagnetic radiation illuminating the photoresistor.
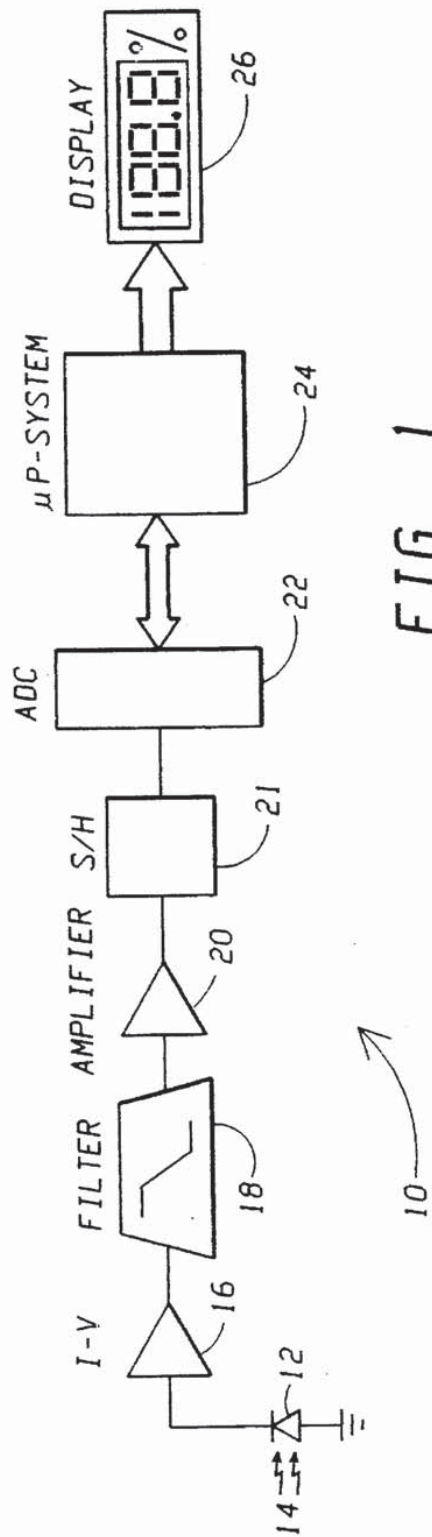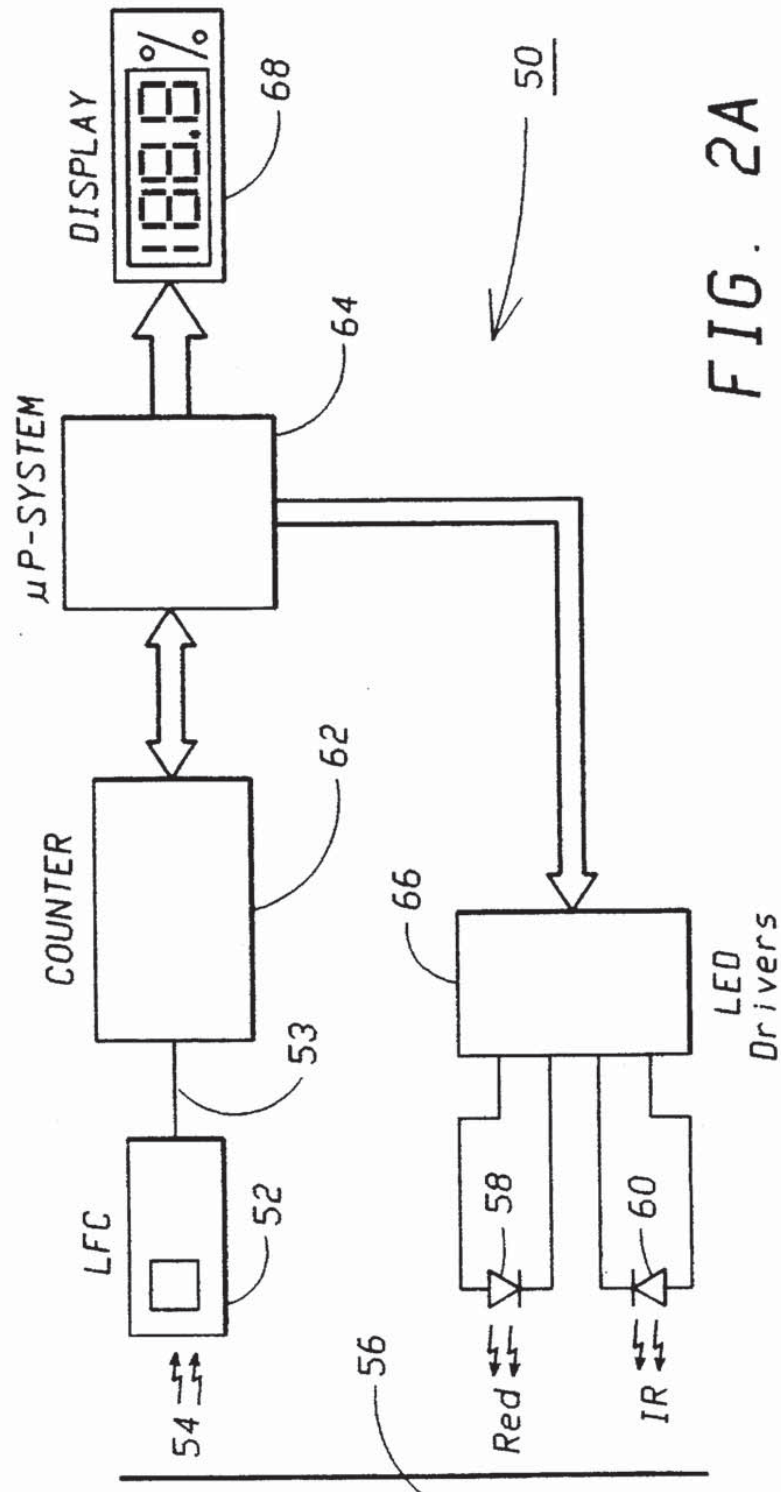
22 Claims, 6 Drawing Sheets

FIG. 1
(PRIOR ART)

FIG. 2A

DISPLAY

88.8 °/。

68

94

88 RCVR

90

80

92

86 XMTR

84

Microcontroller

82

53

LFC

52

66

58

60

LED Drivers

FIG. 2B

FIG. 3A

FIG. 3B

DOCKET ALARM
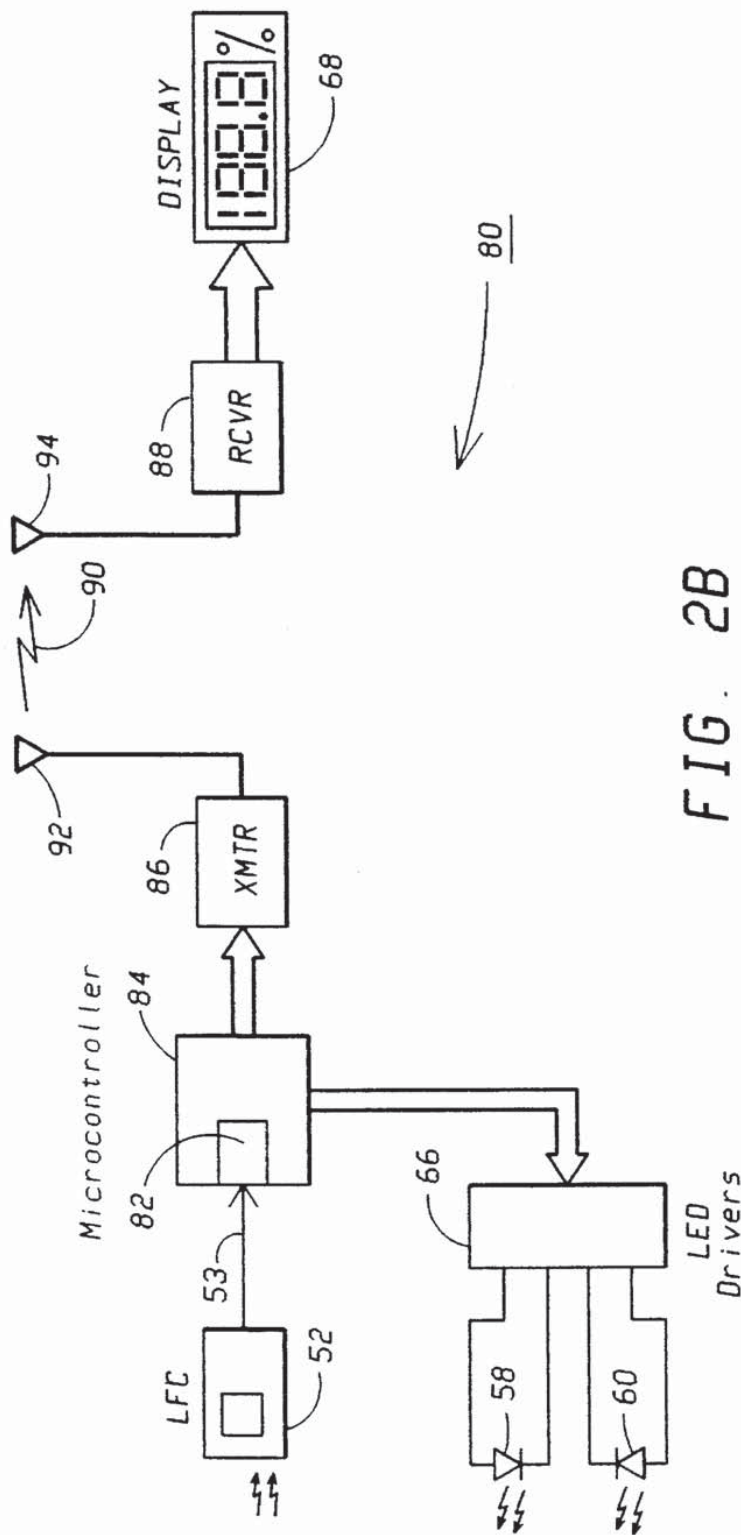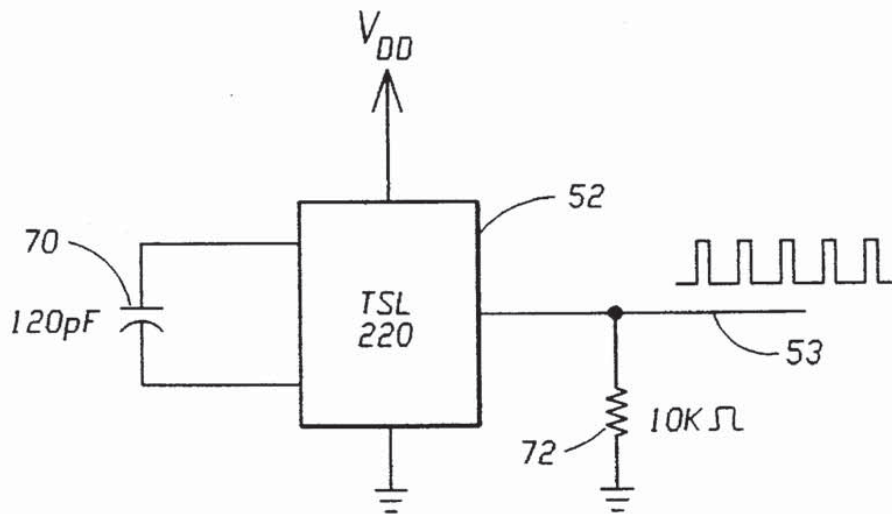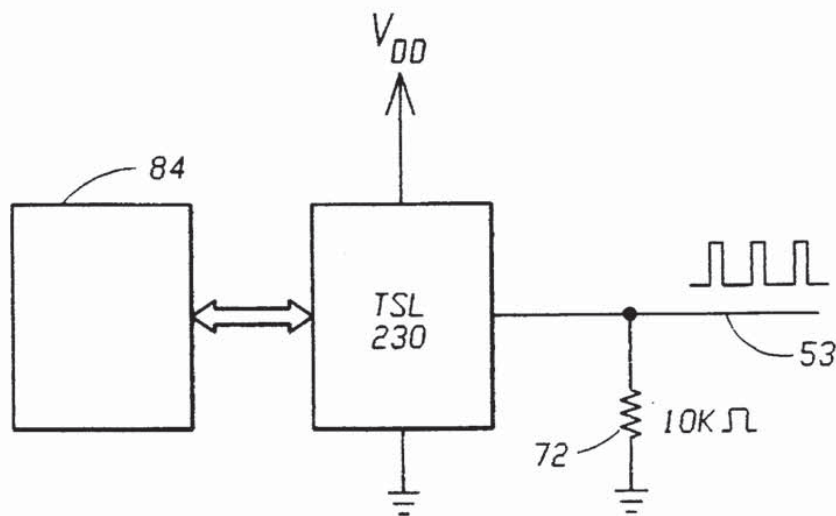
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