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Sarussi et al.

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(45) **Date of Patent:** ***Jan. 19, 2010**

(54) **PHYSIOLOGICAL STRESS DETECTOR
DEVICE AND SYSTEM**

(58) **Field of Classification Search** 600/322,
600/323, 330, 336, 324, 502
See application file for complete search history.

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(73) Assignee: **SPO Medical Equipment Ltd., Kfar
Saba (IL)**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 449 days.

* cited by examiner

This patent is subject to a terminal disclaimer.

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(21) Appl. No.: **11/612,641**

(57) **ABSTRACT**

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(65) **Prior Publication Data**

A non-invasive device and a system for monitoring and measuring blood saturation and heart pulse rate of a baby or infant is provided. The device includes a housing unit configured to be integrated within apparatus, which is attachable proximate to a limb being measured. The housing unit includes at least one light source, providing light directed toward the surface of the limb, a light detector spaced apart from the light source and sensitive to intensity levels of the light reflected from the limb and a processing unit for processing the intensity signals received from the light detector for producing output signals. The device may determine the level of the blood constituent and may also use this level for monitoring and/or to activate an alarm when the level falls outside a predetermined range.

US 2009/0018421 A1 Jan. 15, 2009

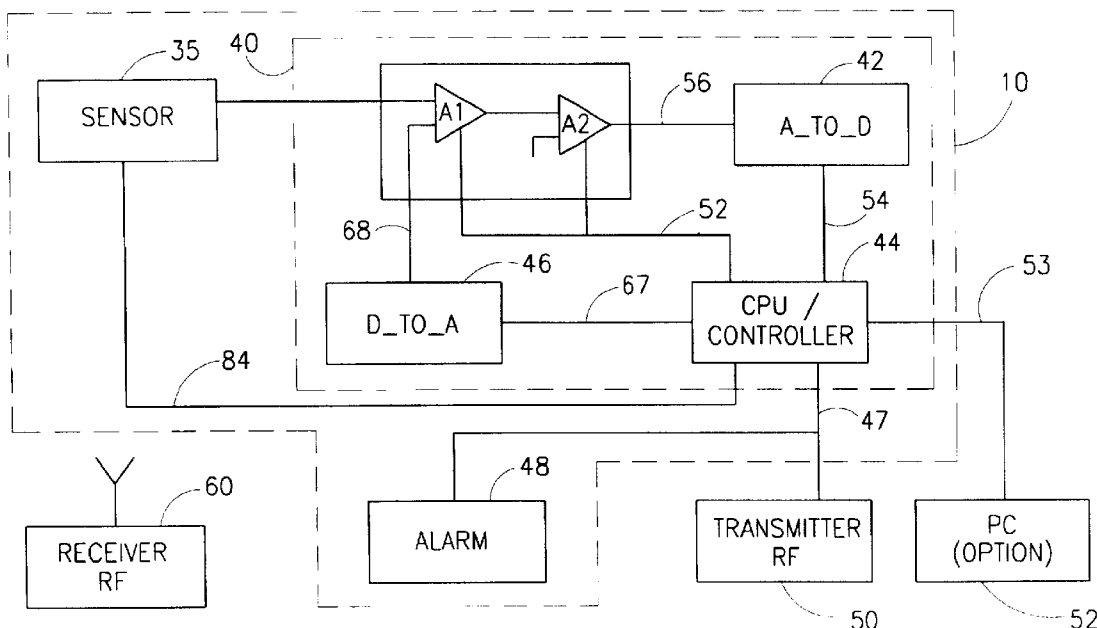
Related U.S. Application Data

(63) Continuation of application No. 10/390,169, filed on Mar. 18, 2003, now Pat. No. 7,171,251, which is a continuation-in-part of application No. 09/147,683, filed on Feb. 1, 2000, now Pat. No. 6,553,242.

(51) **Int. Cl.**
A61B 5/1455 (2006.01)
A61B 5/02 (2006.01)

(52) **U.S. Cl.** **600/324; 600/330; 600/502**

14 Claims, 17 Drawing Sheets



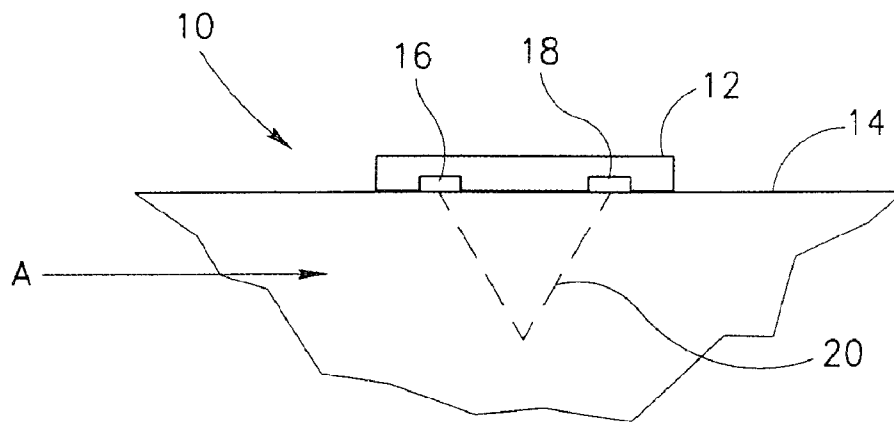


FIG. 1

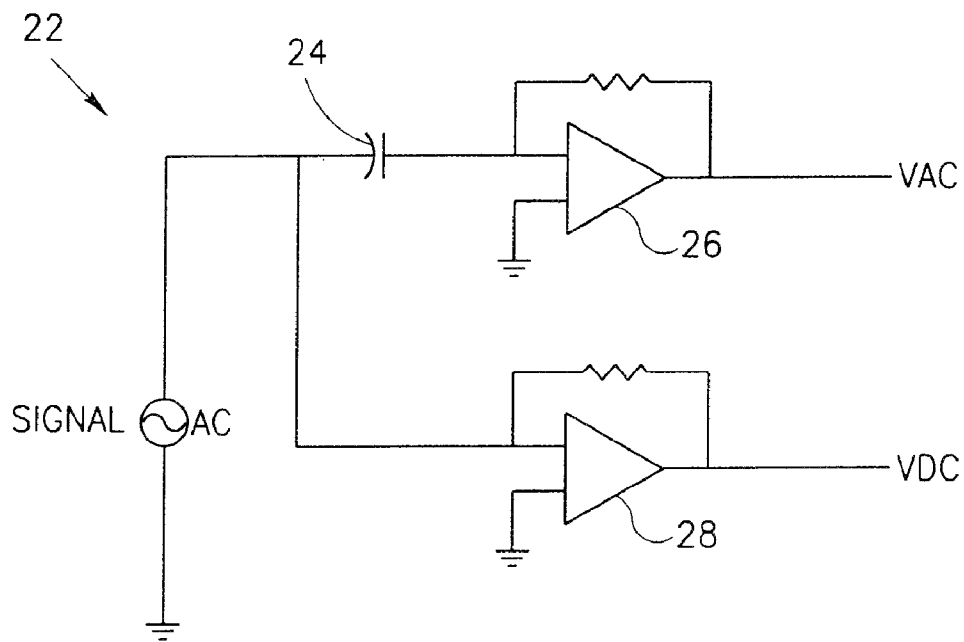


FIG. 2
PRIOR ART

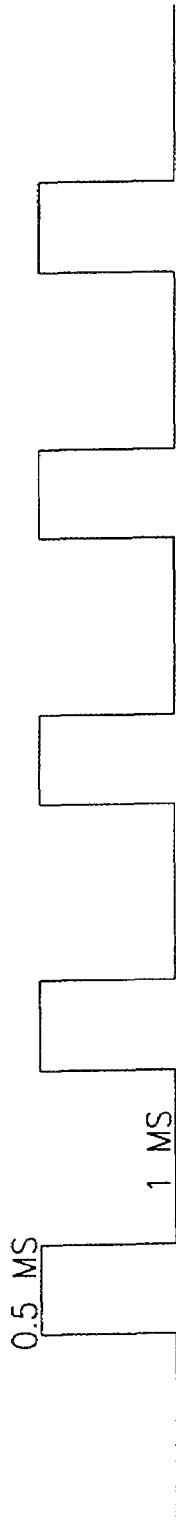


FIG. 3A

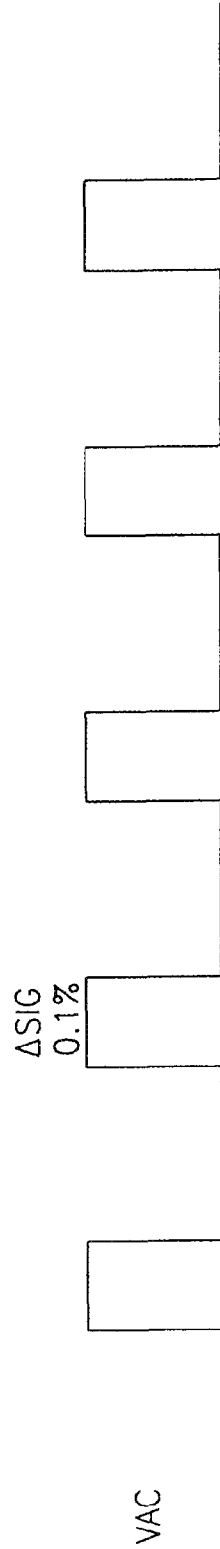


FIG. 3B
PRIOR ART

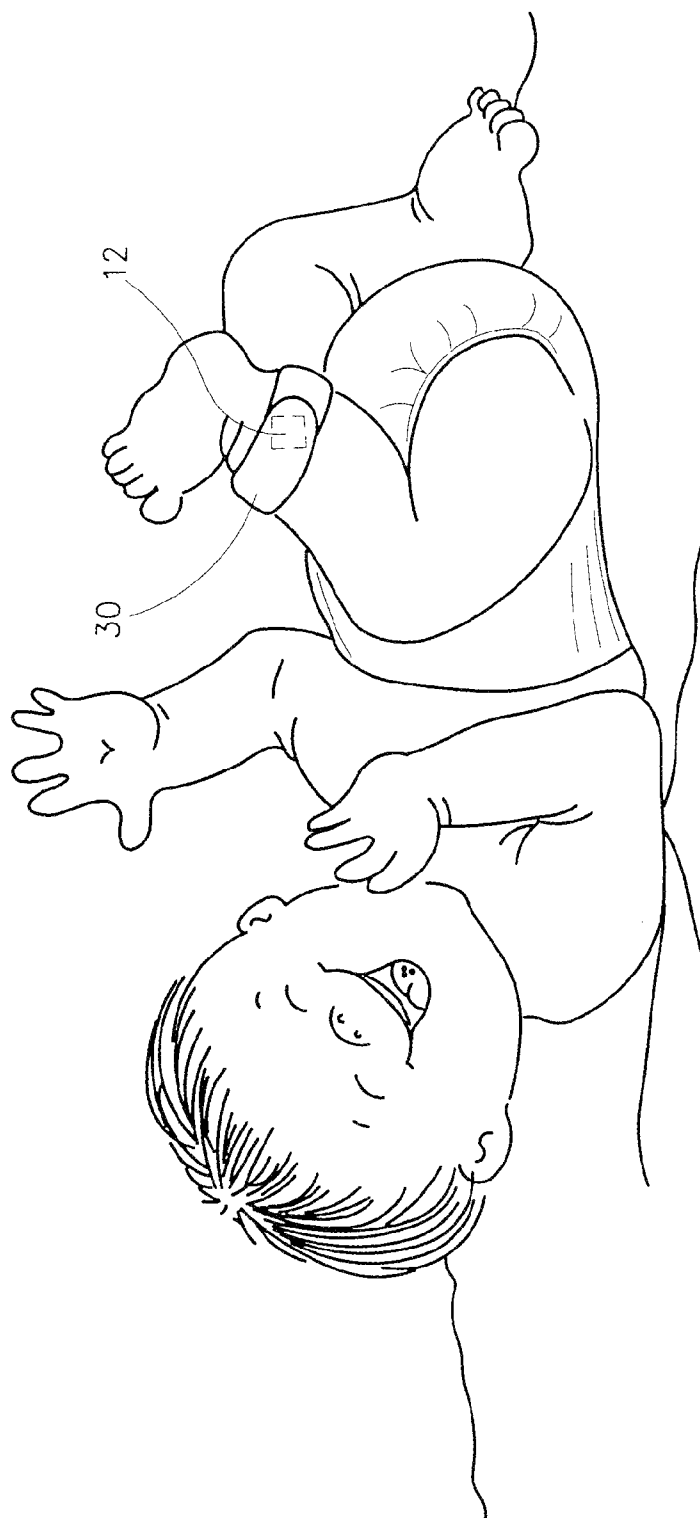


FIG.4

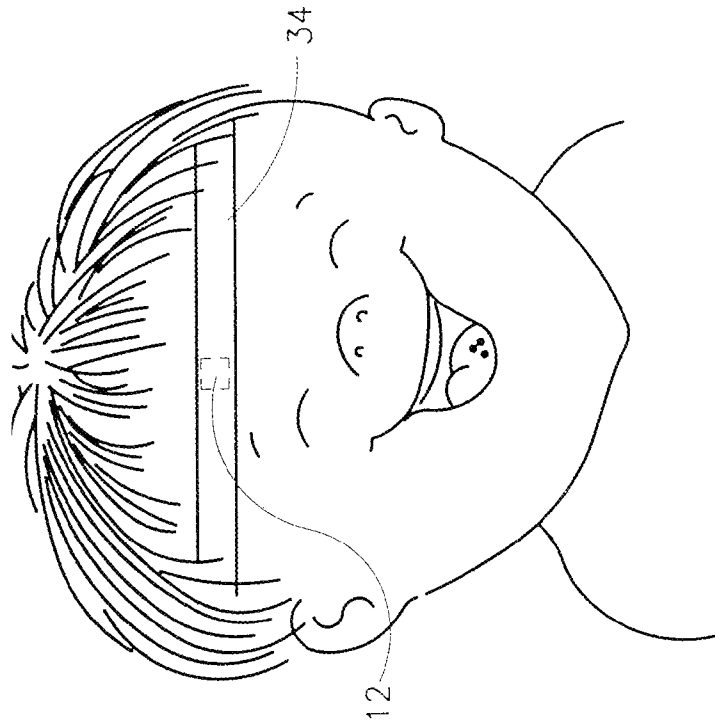


FIG. 5B

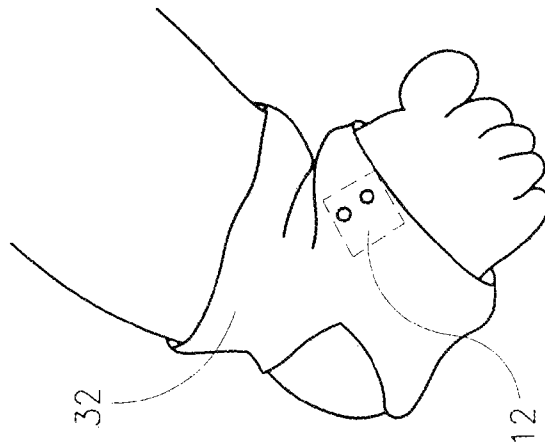


FIG. 5A

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