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United States Patent [19]
Pologe

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[45] **Date of Patent:** Mar. 29, 1994

- [54] **ARTERIAL BLOOD MONITORING PROBE**
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- [73] **Assignee:** Ohmeda Inc., Murray Hill, N.J.
- [21] **Appl. No.:** 45,962
- [22] **Filed:** Apr. 12, 1993

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Primary Examiner—Angela D. Sykes
Attorney, Agent, or Firm—Roger M. Rathbun; Larry R. Cassett; James M. Graziano

Related U.S. Application Data

- [63] Continuation-in-part of Ser. No. 832,551, Feb. 7, 1992.
- [51] **Int. Cl.⁵** **A61B 5/00**
- [52] **U.S. Cl.** **128/633; 128/665;**
356/41
- [58] **Field of Search** 128/633-634,
128/664-667; 356/39-41

[57] **ABSTRACT**

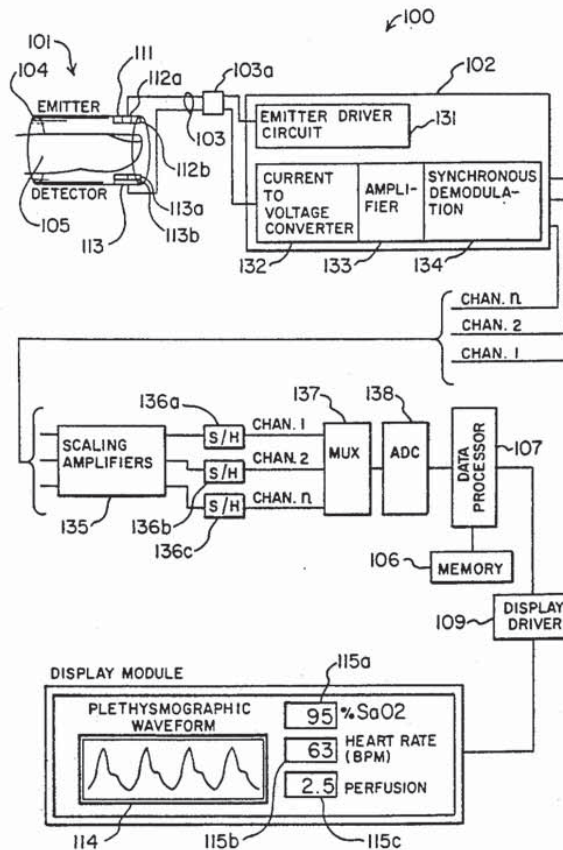
This arterial blood monitoring system takes advantage of the basic statistical property that arterial blood contains a plurality of dominant absorbers, whose measured light absorption spectra appear as a constant over a short interval of time. By measuring the transmitted light as it varies with arterial pulsation at selected wavelengths of light, over a common light path, the relative amount of these dominant absorbers in the arterial blood can noninvasively be determined. To ensure the common light path, a sandwich construction light detector is used.

[56] **References Cited**

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10 Claims, 4 Drawing Sheets



Apple Inc.
APL1019

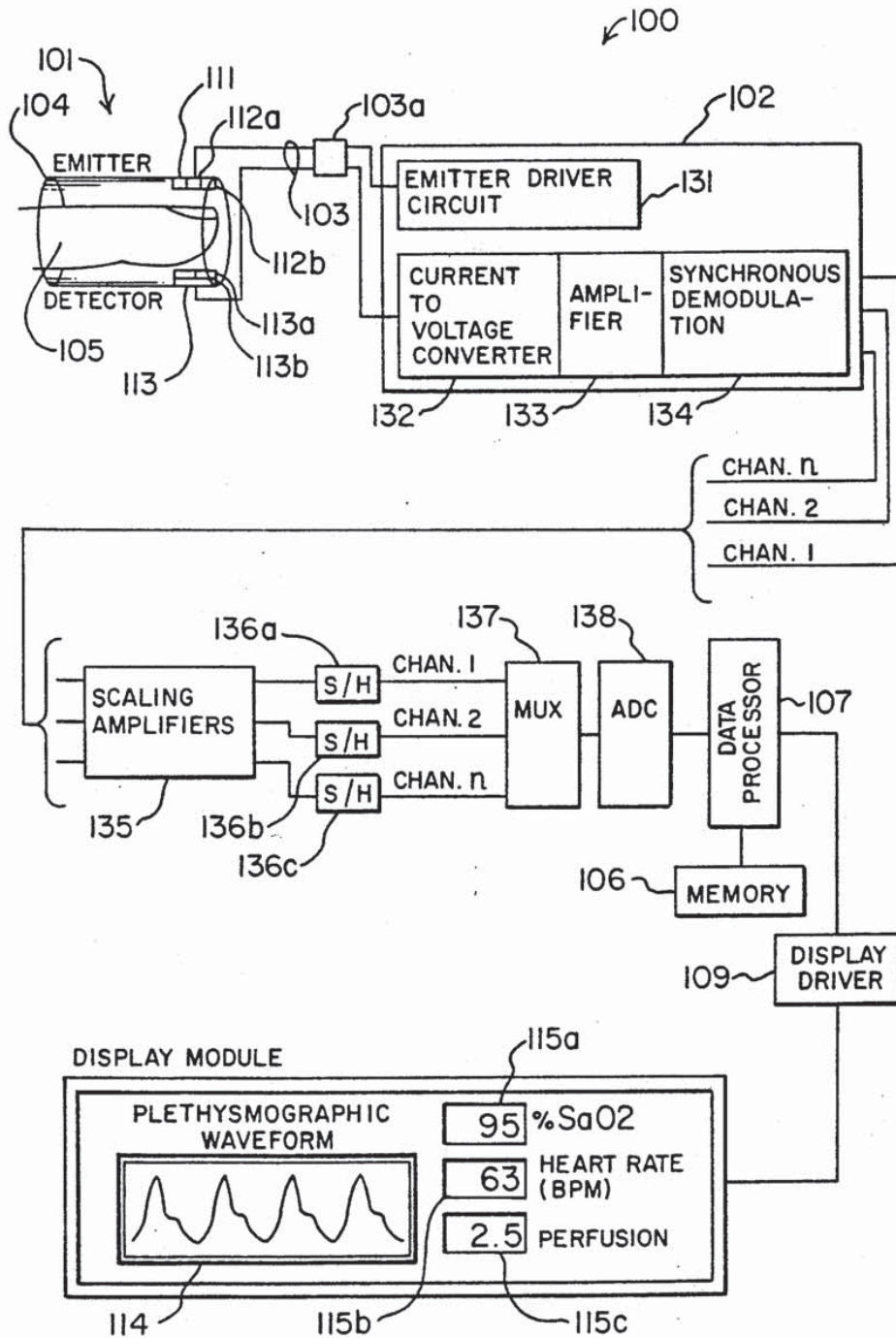


FIG. 1.

FIG. 2.

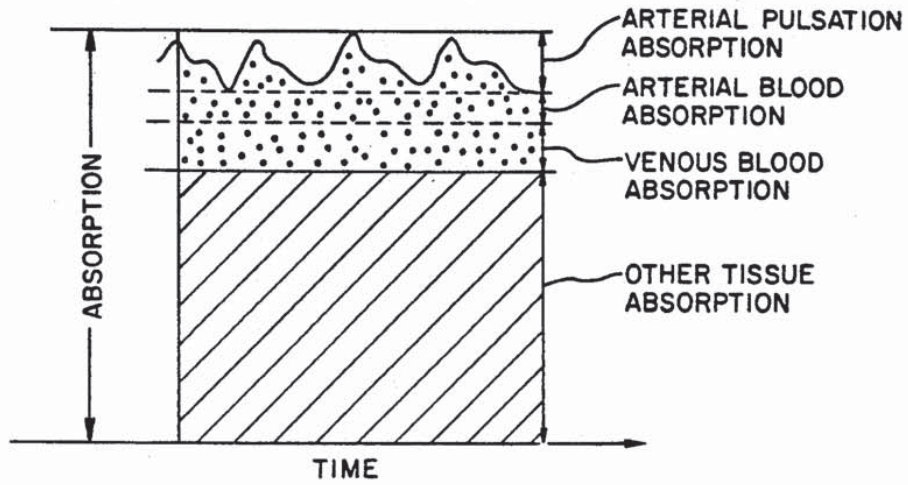
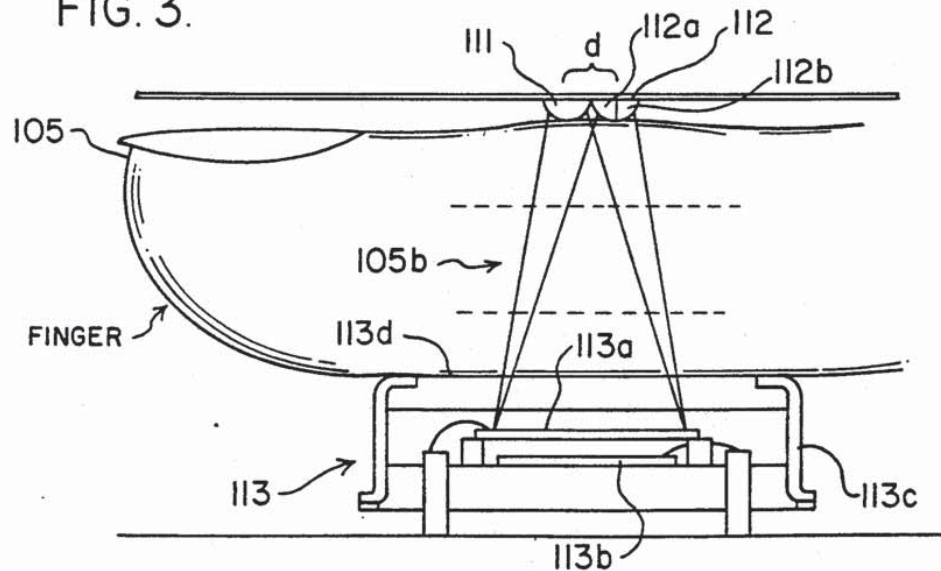


FIG. 3.



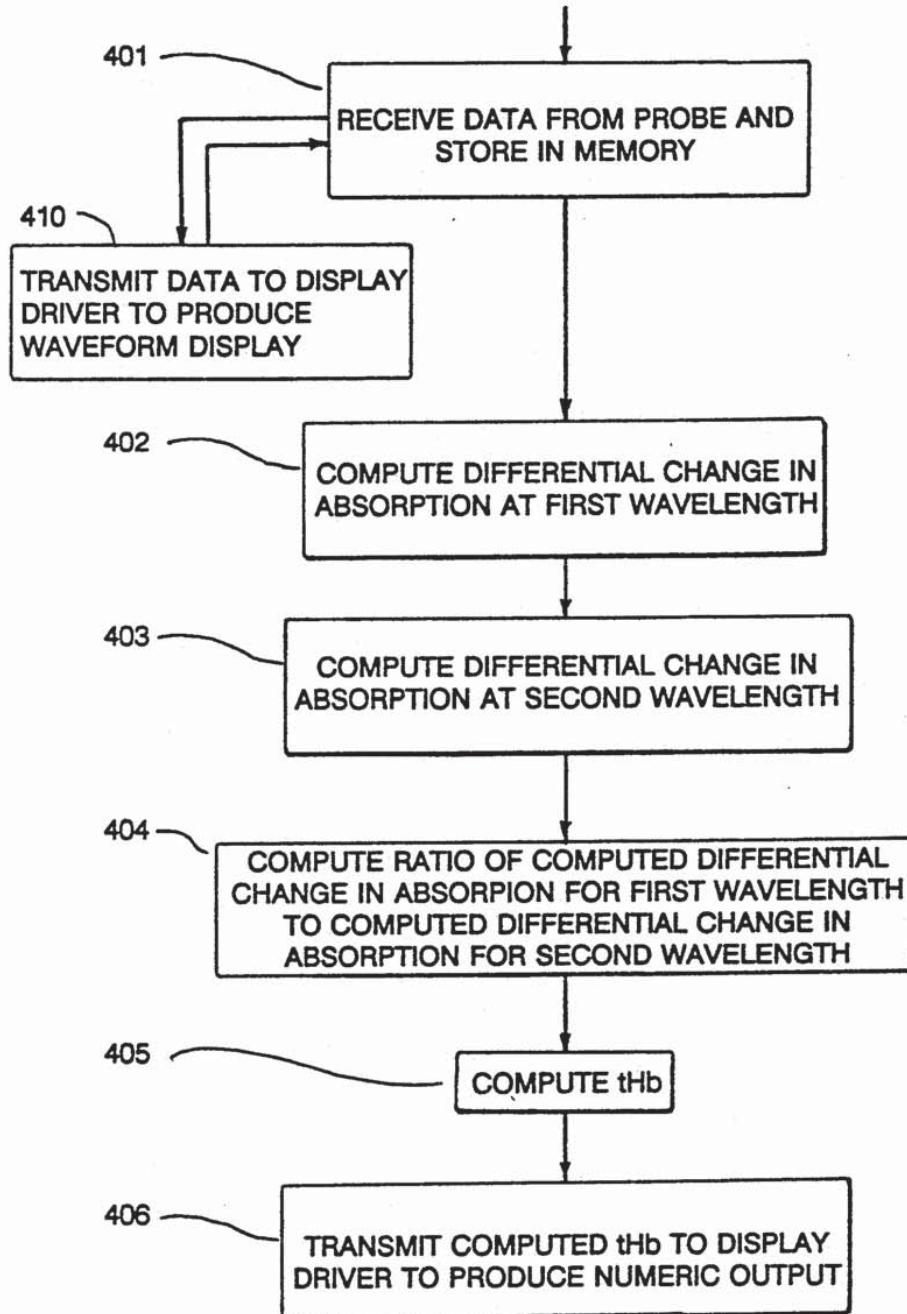


FIGURE 4

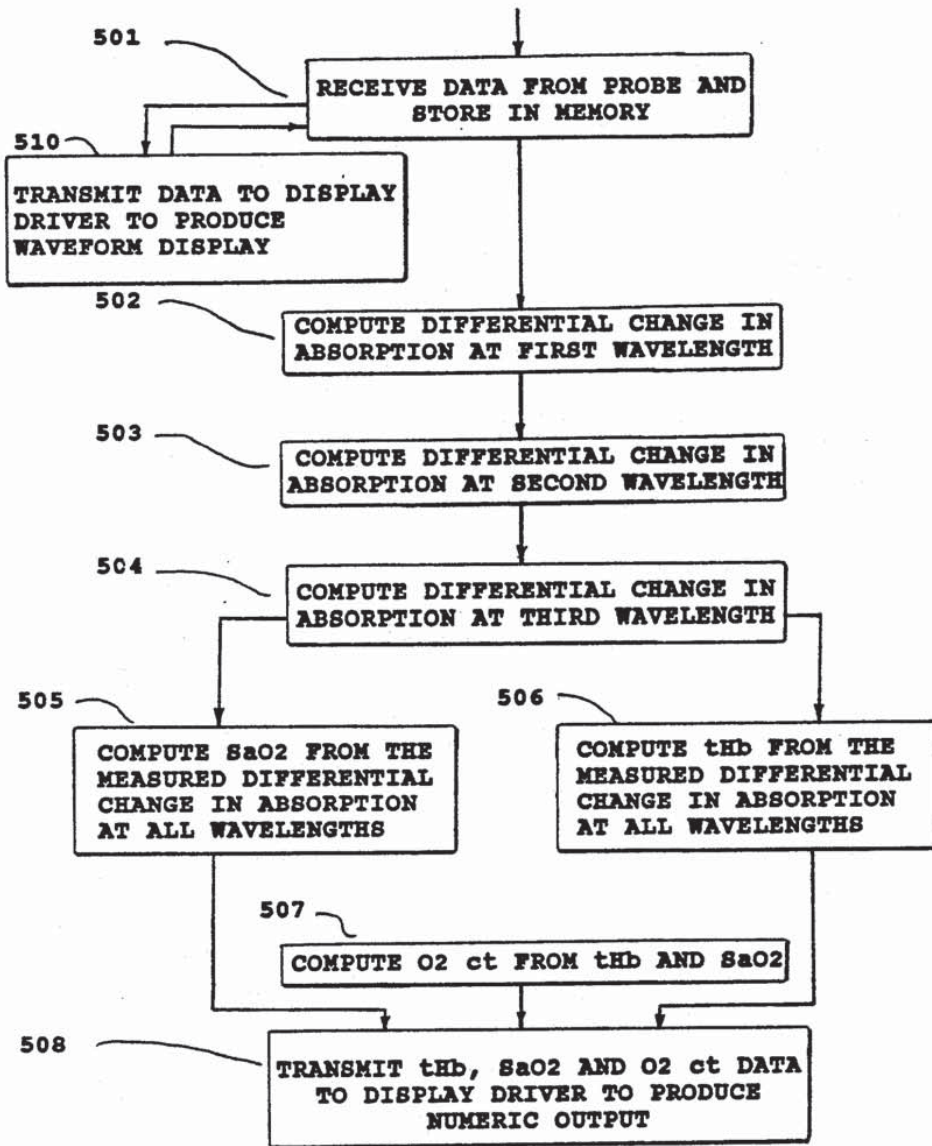


FIGURE 5

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