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# United States Patent [19] Pologe

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

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*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.<sup>5</sup> ..... **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

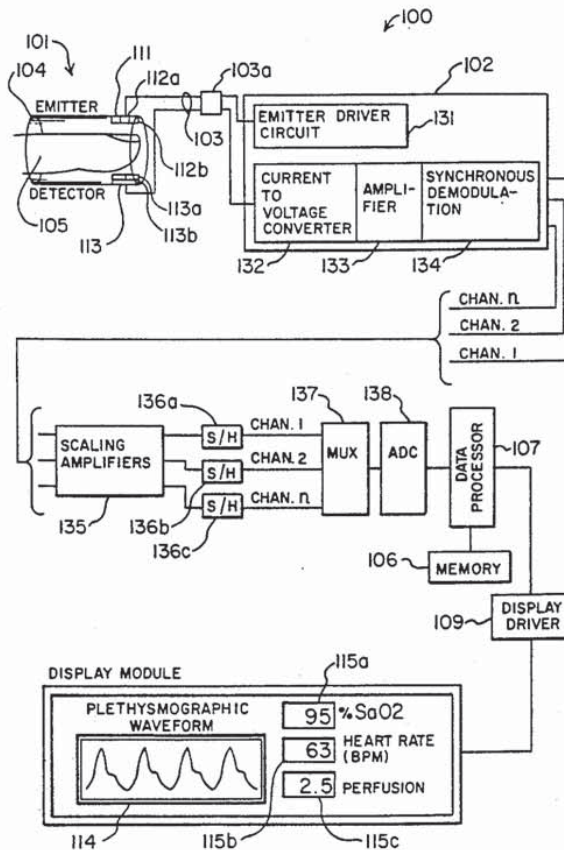
This arterial blood monitoring system takes advantage of the basic statistical property that arterial blood contains a plurality of dominant absorbers, whose measured light absorption spectra appear as a constant over a short interval of time. By measuring the transmitted light as it varies with arterial 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.

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**10 Claims, 4 Drawing Sheets**



Apple Inc.  
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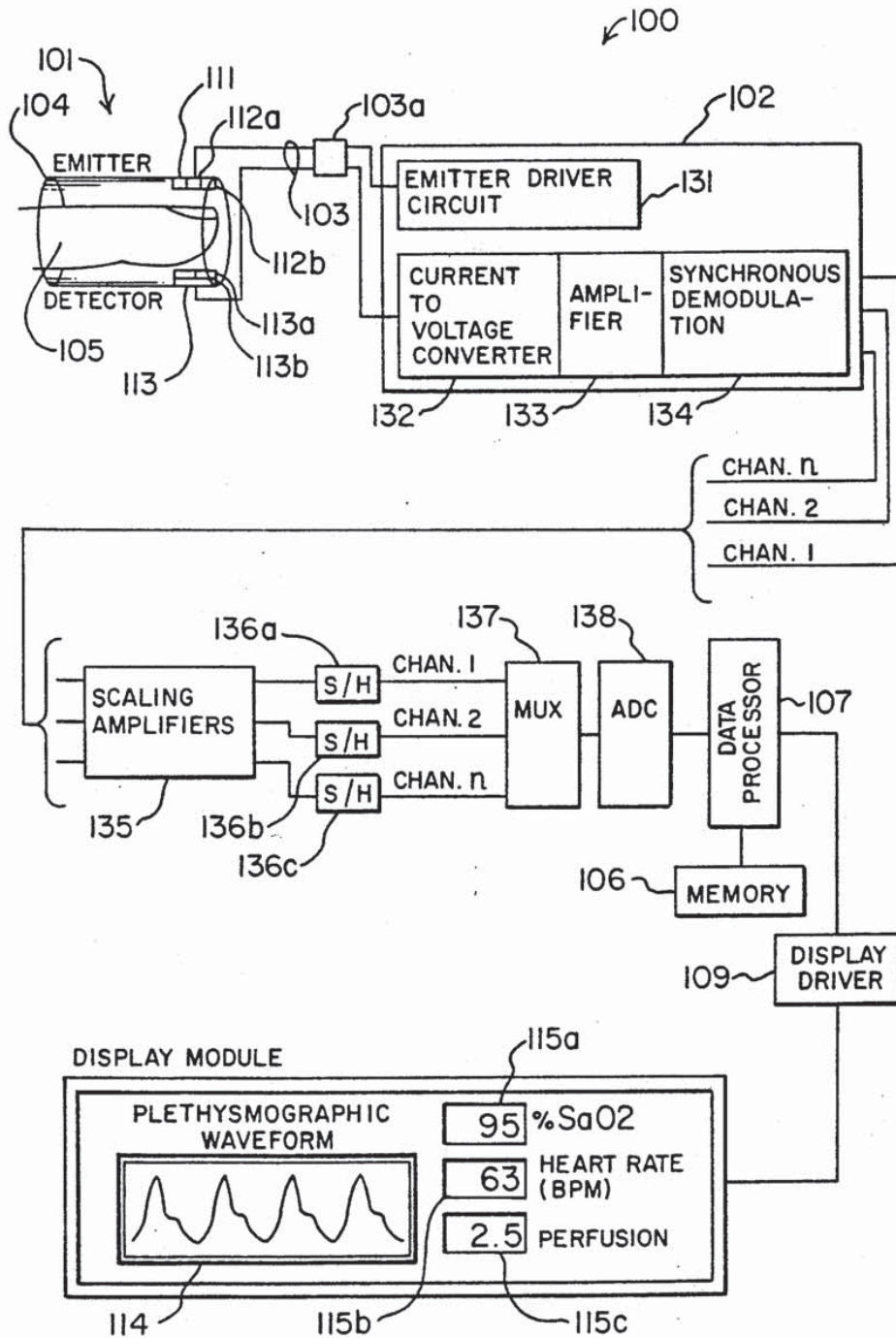


FIG. 1.

FIG. 2.

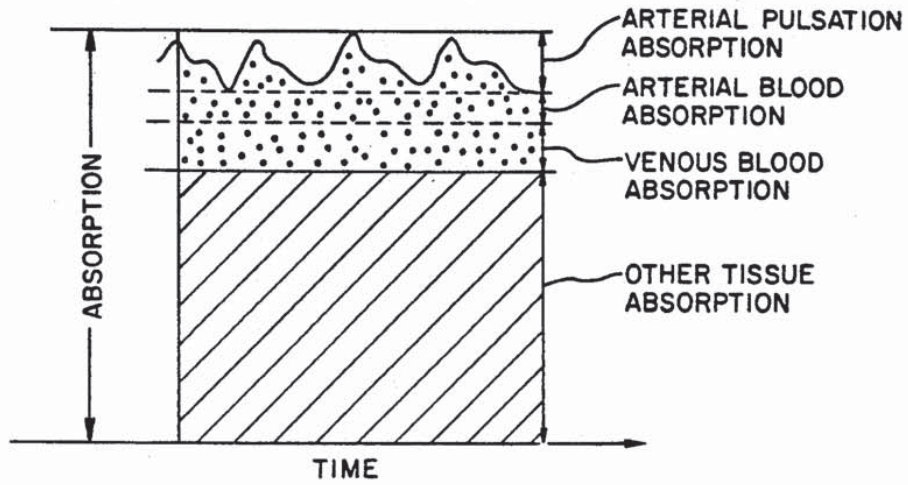
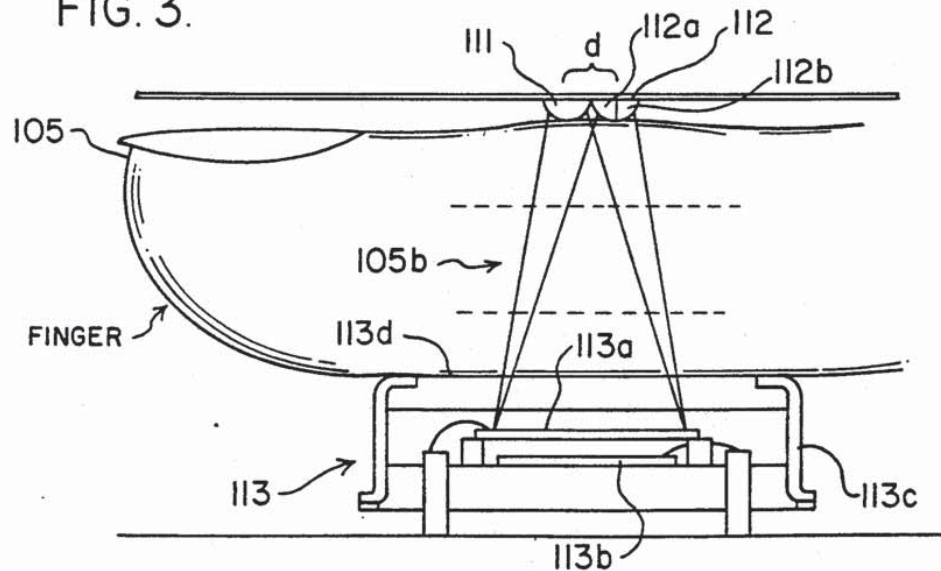


FIG. 3.



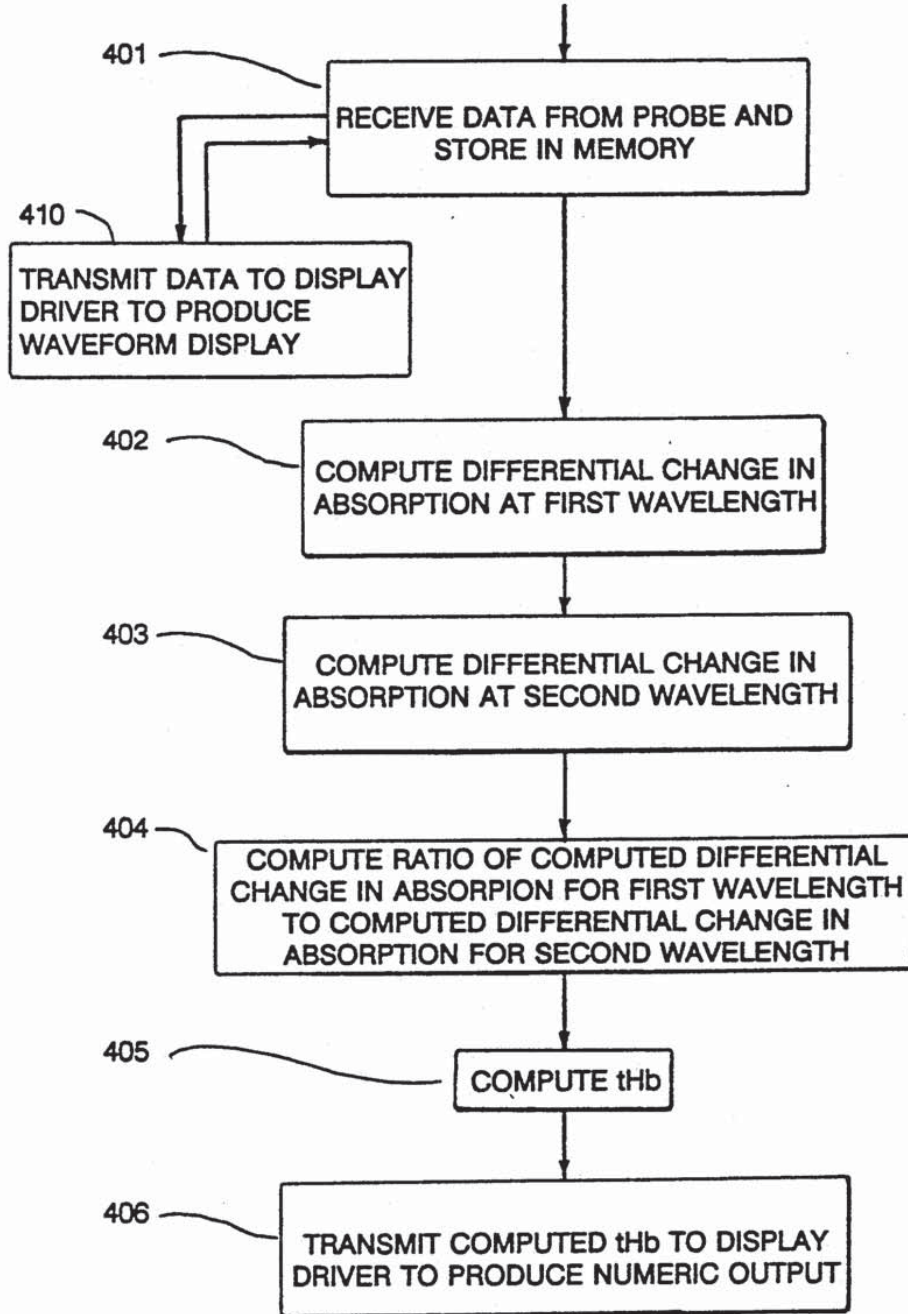


FIGURE 4

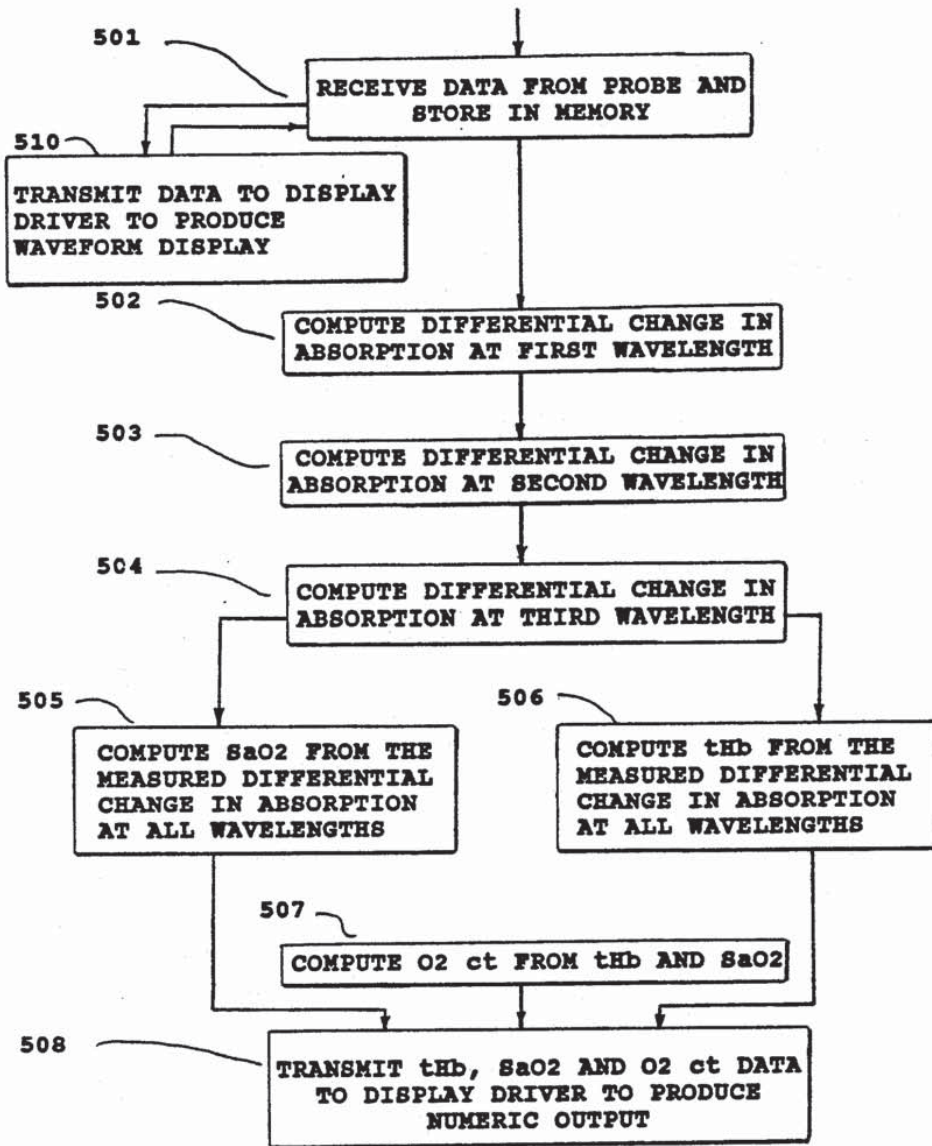


FIGURE 5

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