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United States Patent [19]

[11] Patent Number: **5,797,841**

Delonzor et al.

[45] Date of Patent: **Aug. 25, 1998**

[54] **SHUNT BARRIER IN PULSE OXIMETER SENSOR**

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5,099,842	3/1992	Mannheimer et al.	128/633
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[75] Inventors: **Russ Delonzor**, Union City; **Paul D. Mannheimer**, Danville; **Michael E. Fein**, Mountain View; **Don Hannula**, San Luis Obispo, all of Calif.

FOREIGN PATENT DOCUMENTS

0127947	12/1984	European Pat. Off.	128/633
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[73] Assignee: **Nelcor Puritan Bennett Incorporated**, Pleasanton, Calif.

Primary Examiner—Jennifer Bahr
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[21] Appl. No.: **611,151**

[22] Filed: **Mar. 5, 1996**

[57] ABSTRACT

[51] **Int. Cl.⁶** **A61B 5/00**

[52] **U.S. Cl.** **600/323**; 600/322; 600/344; 600/310; 250/221

[58] **Field of Search** 128/633, 664-7; 356/39-41; 250/227.11, 200, 221; 600/310, 322, 323, 326, 344

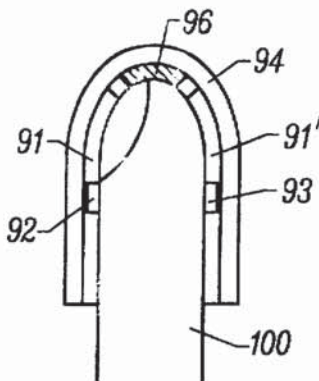
A pulse oximeter sensor having an emitter(s) and a detector, with a layer having a first portion over the emitter and a second portion of layer over the detector is provided. A barrier is included between the first and second portions of the overlying layer to substantially block radiation of the wavelengths emitted by the emitter(s). Preferably, the barrier reduces the radiation shunted to less than 10% of the radiation detected, and more preferably to less than 1% of the radiation detected.

[56] References Cited

U.S. PATENT DOCUMENTS

3,769,974	11/1973	Smart et al.	128/633
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9 Claims, 6 Drawing Sheets



Apple Inc

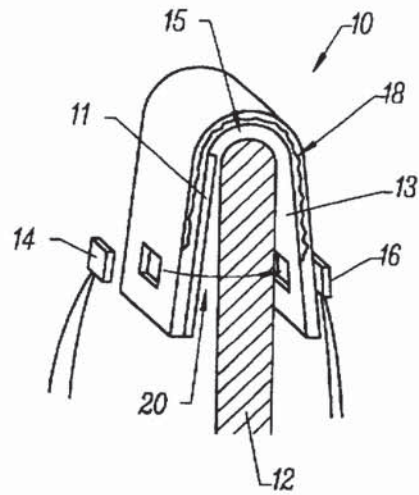


FIG. 1
PRIOR ART

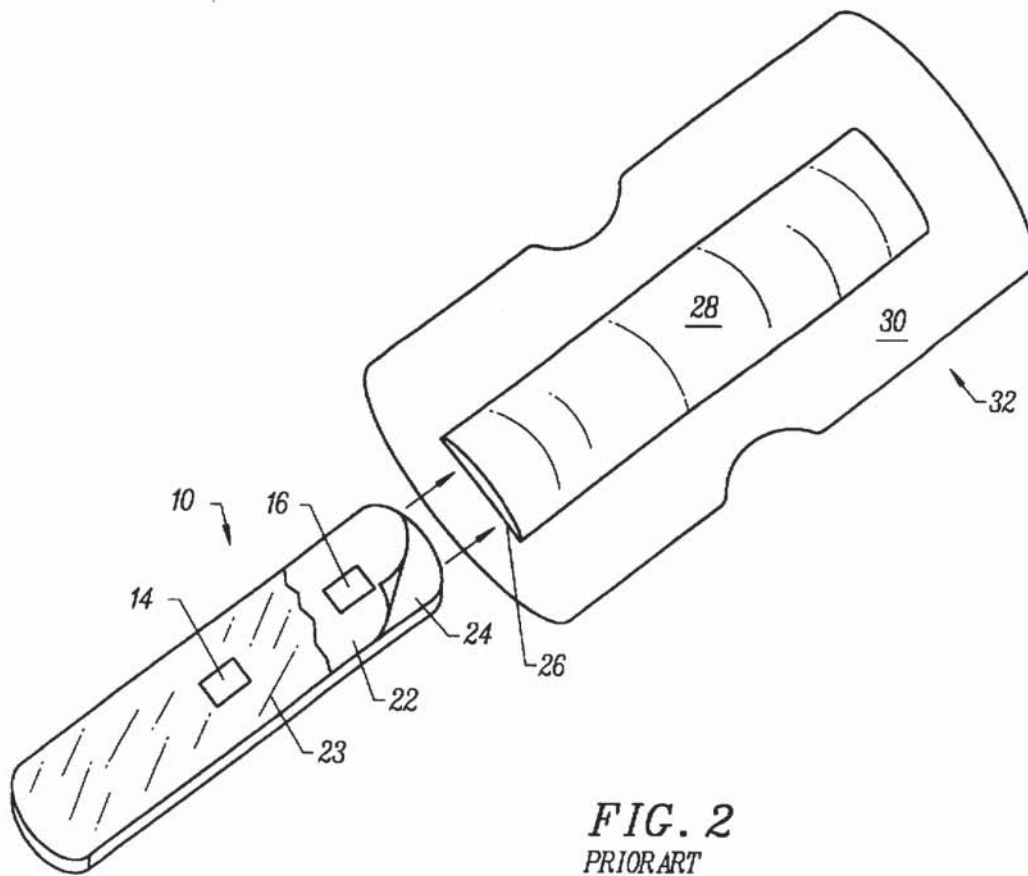


FIG. 2
PRIOR ART

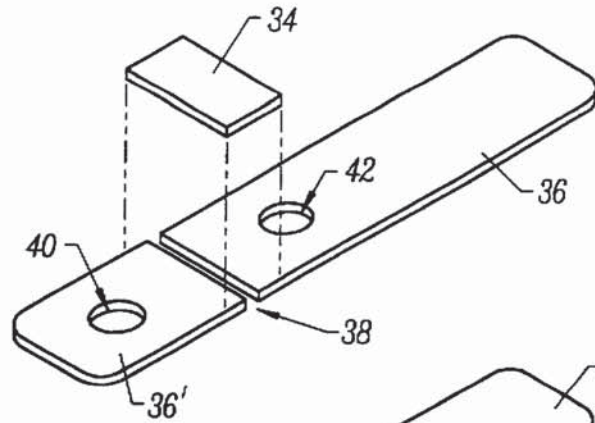


FIG. 3A

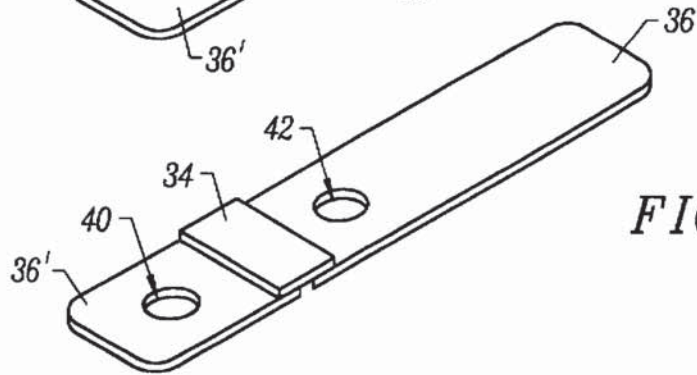


FIG. 3B

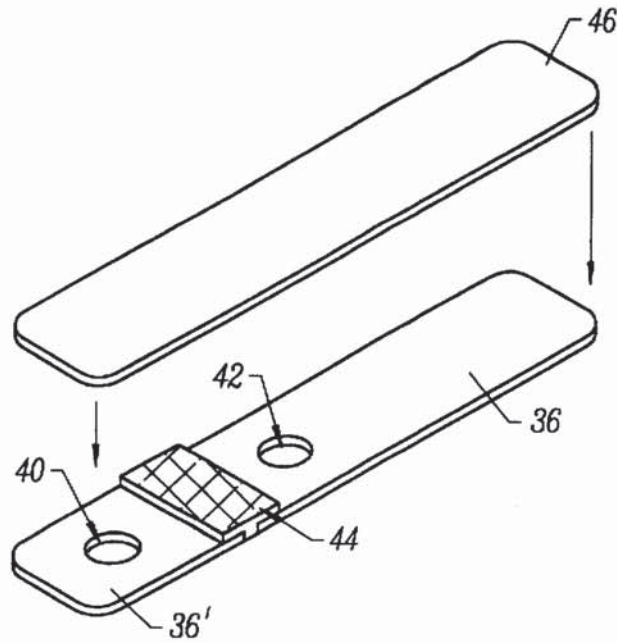


FIG. 4

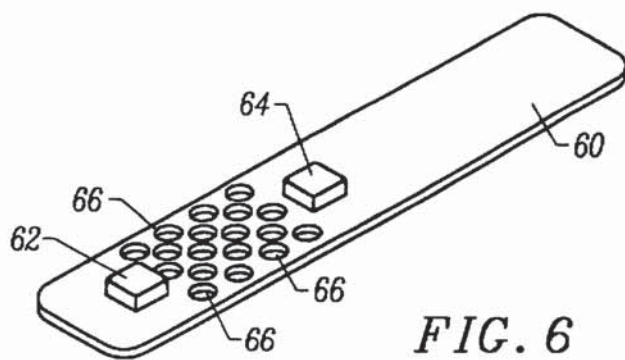
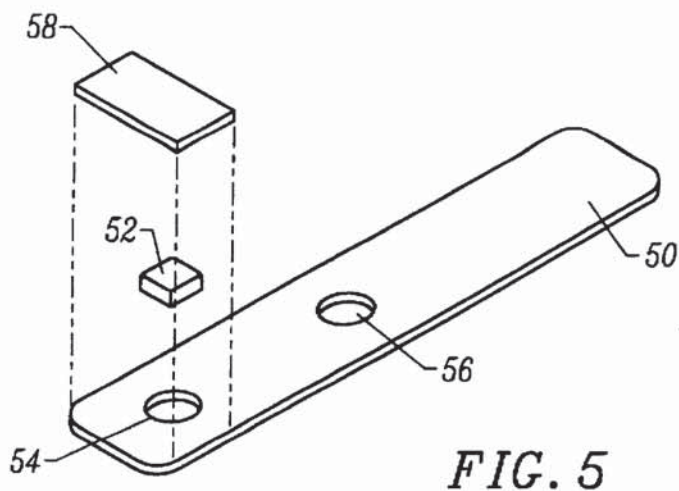


FIG. 7

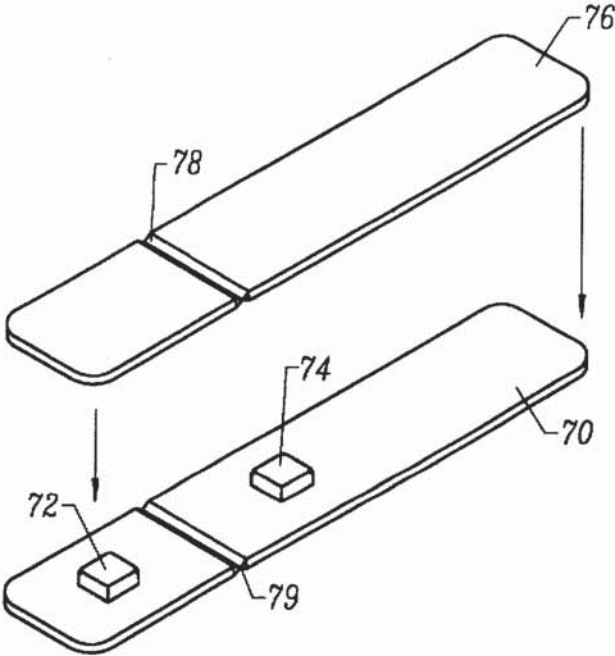
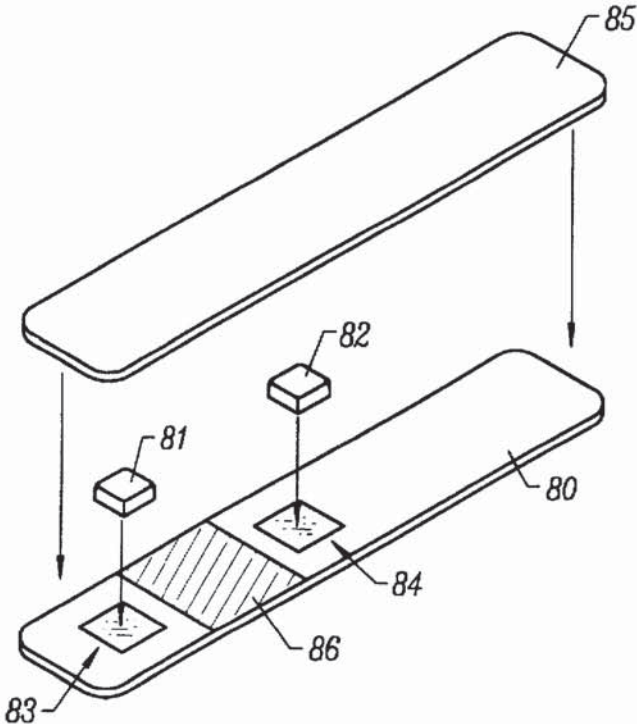


FIG. 8



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