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Chan et al.

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(54) **DEVICE AND METHOD FOR MEASURING THREE-LEAD ECG IN A WRISTWATCH**

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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 177 days.

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(51) **Int. Cl.**
A61B 5/04 (2006.01)

(52) **U.S. Cl.** **600/509**

(58) **Field of Classification Search** **600/301, 600/508, 509, 485, 595**

See application file for complete search history.

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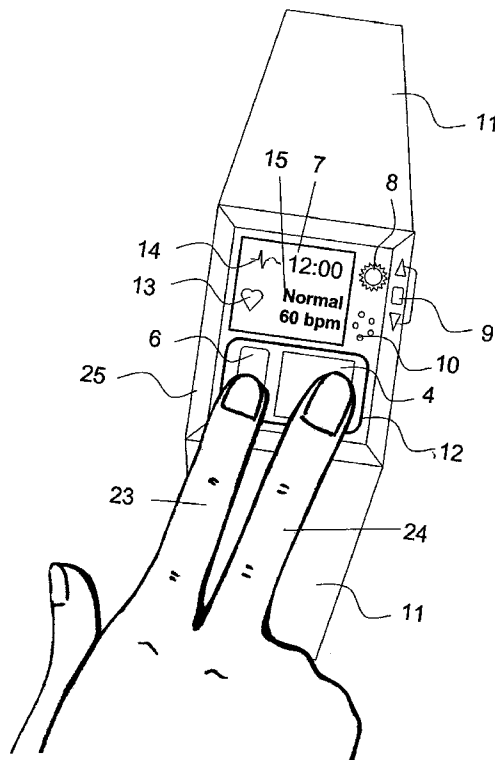
Primary Examiner—Carl H Layno

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(57) **ABSTRACT**

A wristwatch worn by a user for measuring a three-lead ECG includes three electrodes placed separately on the front, either side, and back or strap thereof. The wristwatch further includes an electrode panel having the electrode on the front or either side of the watch, sensing elements, pressure, infrared or impedance detectors, and circuits. The electrode panel is capable of sensing the contact or press of fingers to trigger the ECG measuring. While the electrode in the back-side of the watch contacts the hand wearing the watch, the electrode and electrode panel on the front or either side of the watch are pressed by fingers from the other hand, and the electrode in the strap contacts the abdomen or left leg simultaneously. Thus, a three-lead ECG can be measured. ECG data can be transmitted to a personal or hospital computer by wireless networks or flash memory.

19 Claims, 14 Drawing Sheets



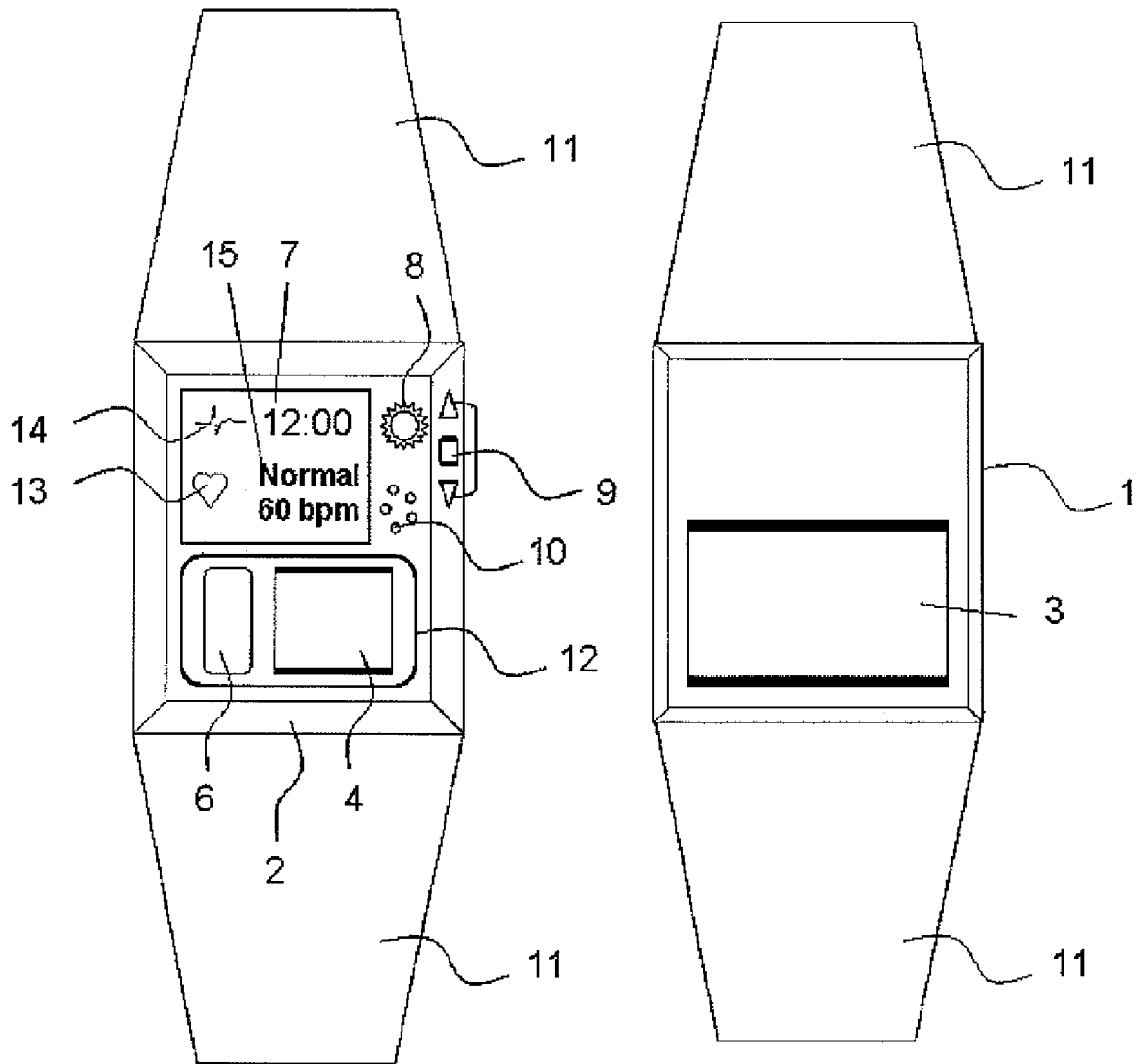


FIG.1A

FIG.1B

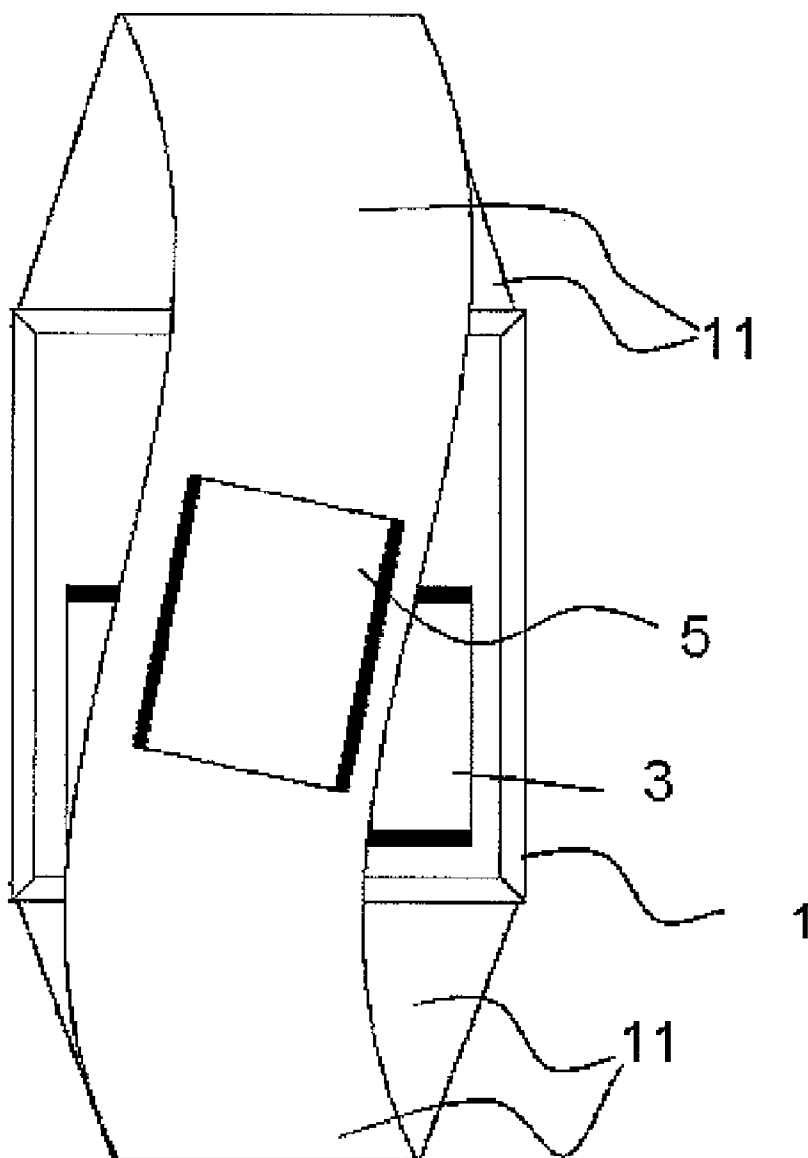


FIG. 2

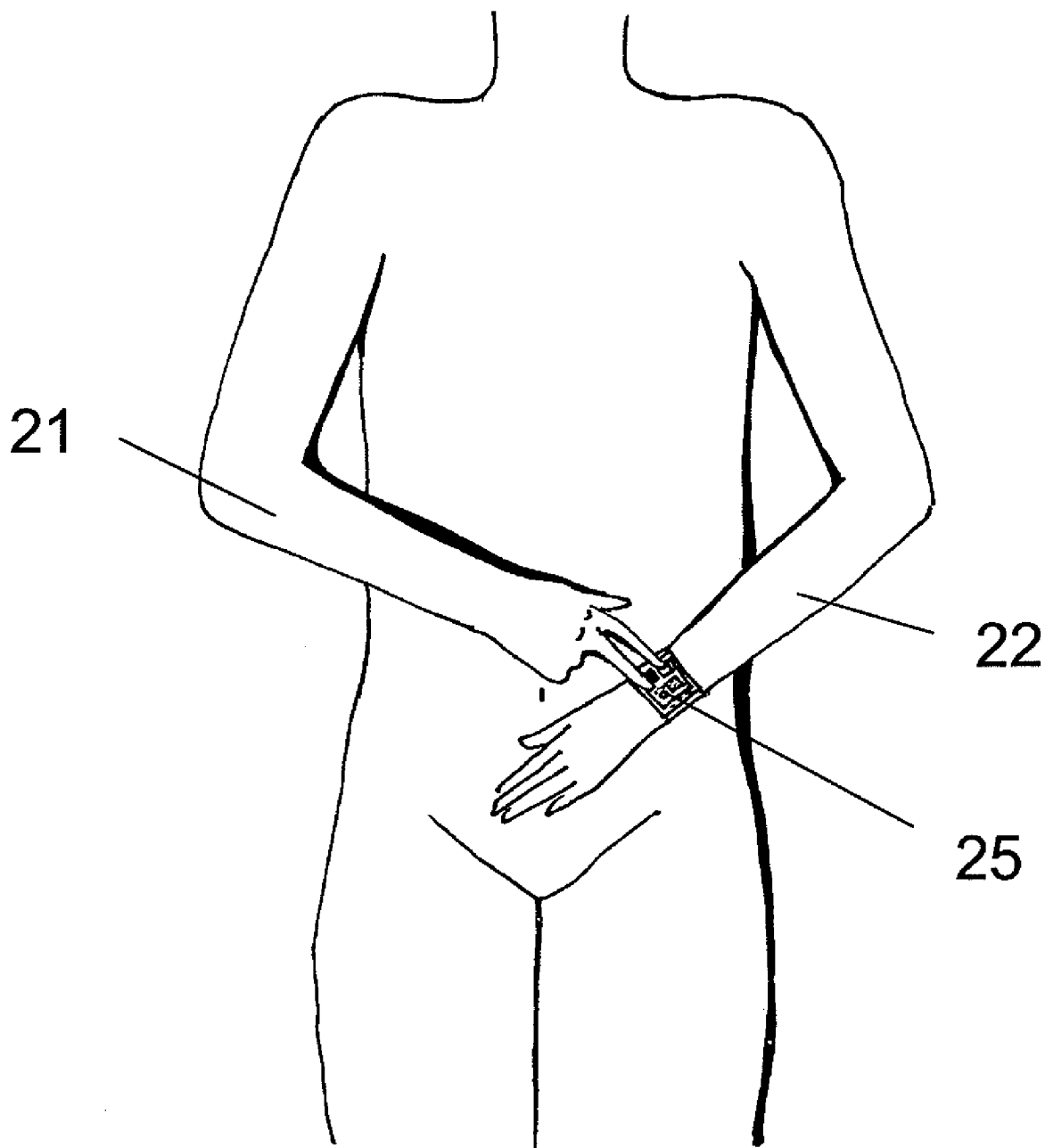


FIG.3A

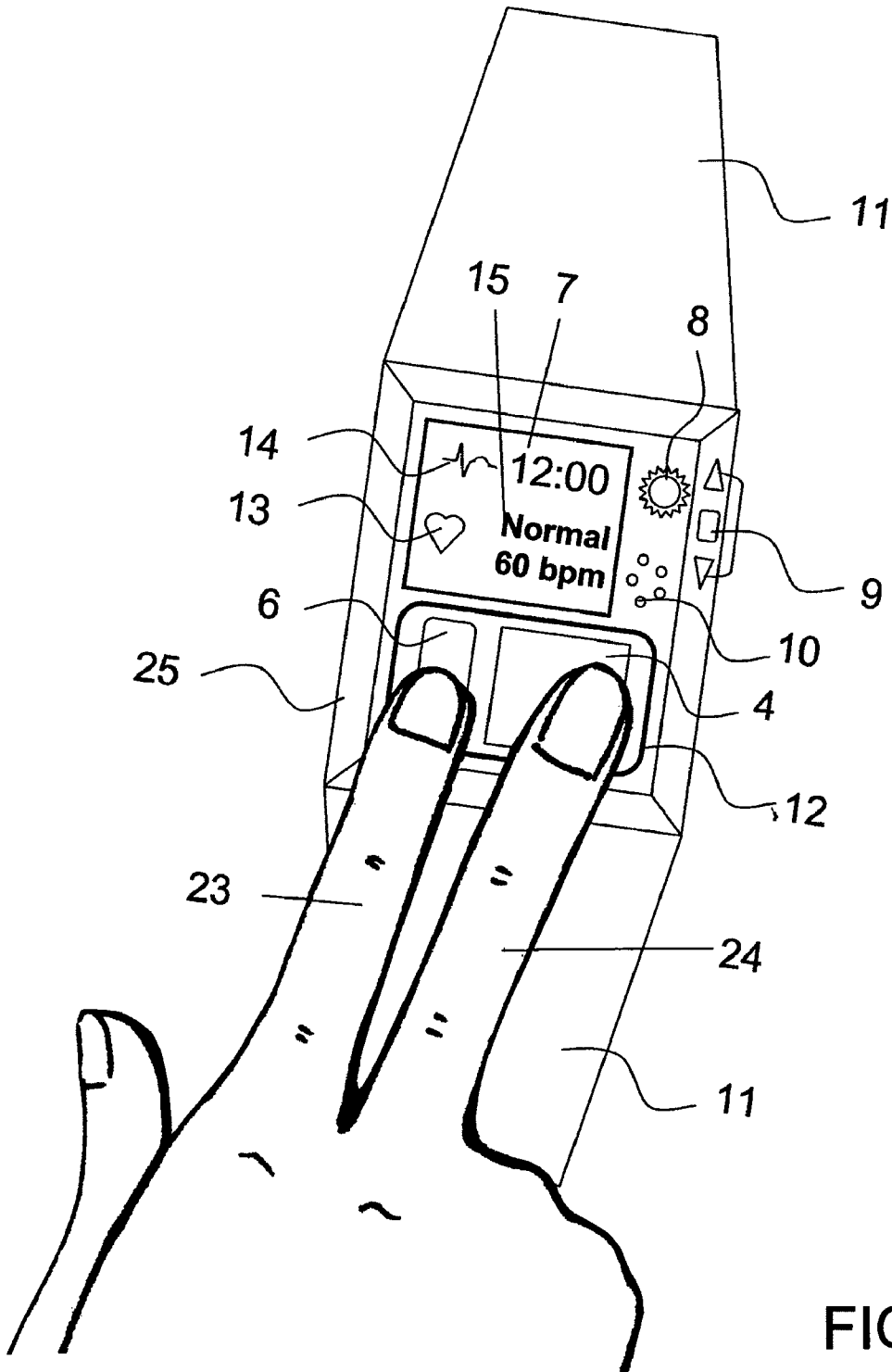


FIG.3B

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