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- (54) **HEART RATE SENSOR WITH HIGH-ASPECT-RATIO PHOTODETECTOR ELEMENT**
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- (73) Assignee: **Fitbit, Inc.**, San Francisco, CA (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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A61B 5/024 (2006.01)
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(52) **U.S. Cl.**
CPC **A61B 5/02427** (2013.01); **A61B 5/02438** (2013.01); **A61B 5/681** (2013.01)

U.S. Appl. No. 14/214,655, filed Mar. 14, 2014, Hong et al.

(Continued)

(58) **Field of Classification Search**
CPC . A61B 5/02427; A61B 5/02438; A61B 5/681
See application file for complete search history.

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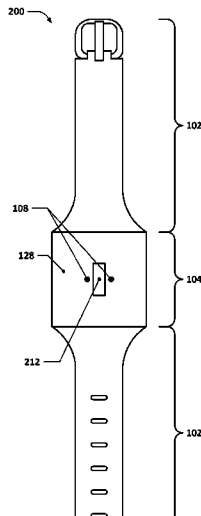
(57) **ABSTRACT**

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Heart rate sensors including high-aspect-ratio photodetector elements are discussed herein. Such high-aspect-ratio photodetector elements may provide improved signal-strength-to-power-consumption performance for heart rate sensors incorporating such photodetector elements as compared with heart rate sensors incorporating, for example, square photodetector elements.

30 Claims, 14 Drawing Sheets



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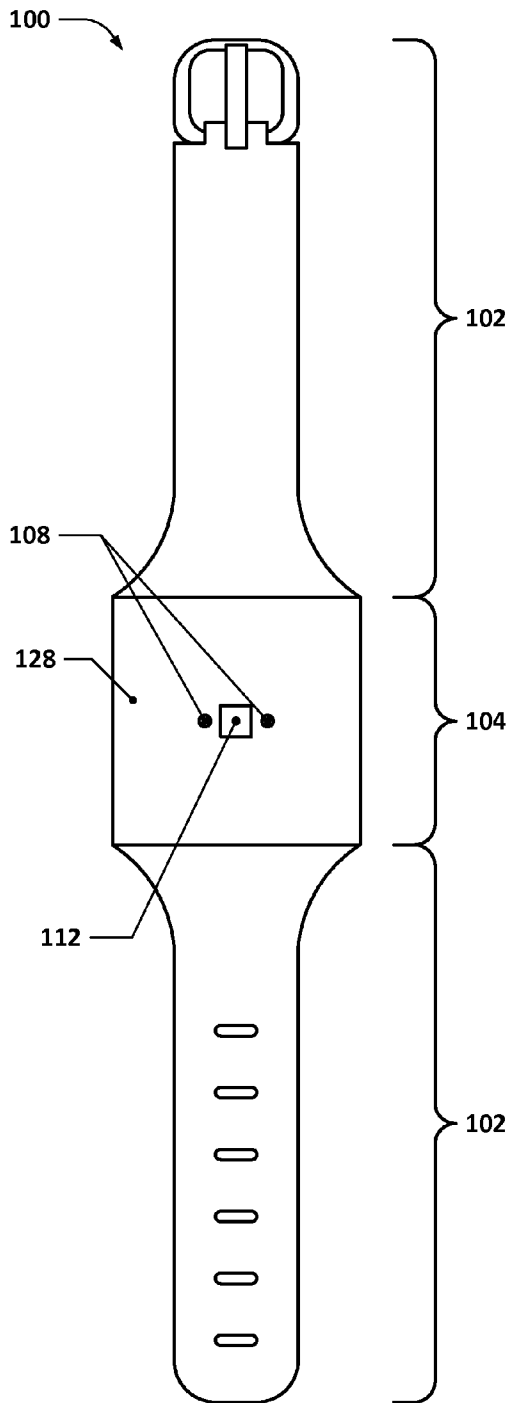


FIG. 1
(Prior Art)

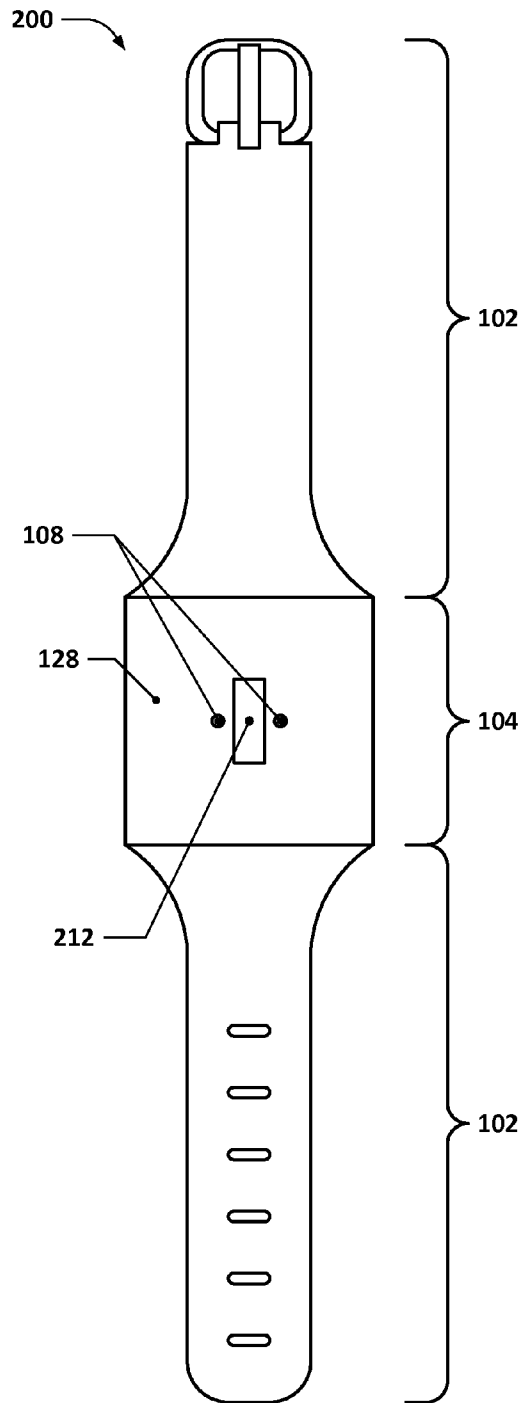


FIG. 2

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