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(54) Title: WEARABLE SCREEN-PRINTED BIOSENSOR WITH PAPER MICROFLUIDICS FOR SWEAT ANALYSIS

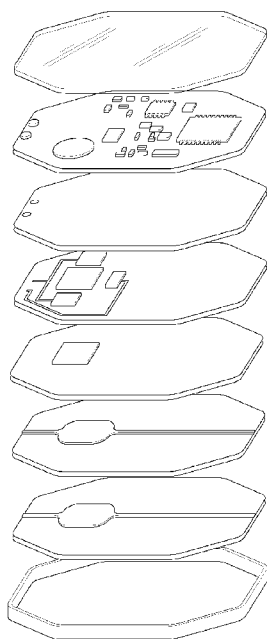


FIG. 1

(57) Abstract: An apparatus, system and method for providing a hydration detection device. The hydration detection device, includes: a flexible substrate having screen-printed therein an electrical circuit comprising a plurality of layers of conductive and dielectric inks; a sensor upon the flexible substrate, wherein the sensor is capable of detecting element data indicative of characteristics of sweat; untreated chromatographic paper placed so as to contact skin of a user, and capable of wicking the sweat from the skin to the sensor along a micro-sized fluidic channel; and a bluetooth antenna on the flexible substrate and communicative with the sensor, and capable of communicating the element data wirelessly to an application capable of indicating to the user a propriety of the hydration of the user based upon the element data.



INTERNATIONAL SEARCH REPORT

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| <p>A. CLASSIFICATION OF SUBJECT MATTER</p> <p>IPC - INV. A61B 5/00; A61B 5/145; A61B 10/00 (2024.01) ADD.</p> <p>CPC - INV. A61B 5/4266; A61B 5/14517; A61B 5/6833; A61B 10/0064</p> <p>ADD. A61B 2560/0412; A61B 2562/166; B01L 2200/027; B01L 2200/10; B01L 2300/0627; B01L 2300/123</p> <p>According to International Patent Classification (IPC) or to both national classification and IPC</p> | | | | | | | | | | | | | | |
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| <p>B. FIELDS SEARCHED</p> <p>Minimum documentation searched (classification system followed by classification symbols) See Search History document</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched See Search History document</p> <p>Electronic database consulted during the international search (name of database and, where practicable, search terms used) See Search History document</p> | | | | | | | | | | | | | | |
| <p>C. DOCUMENTS CONSIDERED TO BE RELEVANT</p> <table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>US 2011/0111517 A1 (SIEGEL ADAM C) 12 May 2011; Paragraphs 0010, 0051, 0053, 0054, 0076, 0086</td> <td>1</td> </tr> <tr> <td>Y</td> <td>US 2019/0000427 A1 (TFM INVENTIONS LIMITED) 03 January 2019; Paragraphs 0010, 0070</td> <td>1</td> </tr> <tr> <td>A</td> <td>US 10,638,963 B2 (DRAWBRIDGE HEALTH INC.) 05 May 2020; entire document</td> <td>1</td> </tr> </tbody> </table> | | | Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. | Y | US 2011/0111517 A1 (SIEGEL ADAM C) 12 May 2011; Paragraphs 0010, 0051, 0053, 0054, 0076, 0086 | 1 | Y | US 2019/0000427 A1 (TFM INVENTIONS LIMITED) 03 January 2019; Paragraphs 0010, 0070 | 1 | A | US 10,638,963 B2 (DRAWBRIDGE HEALTH INC.) 05 May 2020; entire document | 1 |
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| <p>Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300</p> | | <p>Authorized officer</p> <p>Shane Thomas</p> <p>Telephone No. PCT Helpdesk: 571-272-4300</p> | | | | | | | | | | | | |