

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
15 September 2022 (15.09.2022)



(10) International Publication Number
WO 2022/190020 A1

(51) International Patent Classification:

A61M 16/16 (2006.01) *G05D 16/16* (2006.01)
A61M 16/10 (2006.01) *G05D 7/06* (2006.01)
A61M 16/20 (2006.01)

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(21) International Application Number:

PCT/IB2022/052131

(22) International Filing Date:

10 March 2022 (10.03.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/160,285 12 March 2021 (12.03.2021) US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(54) Title: A RESPIRATORY APPARATUS AND CONTROL METHODS

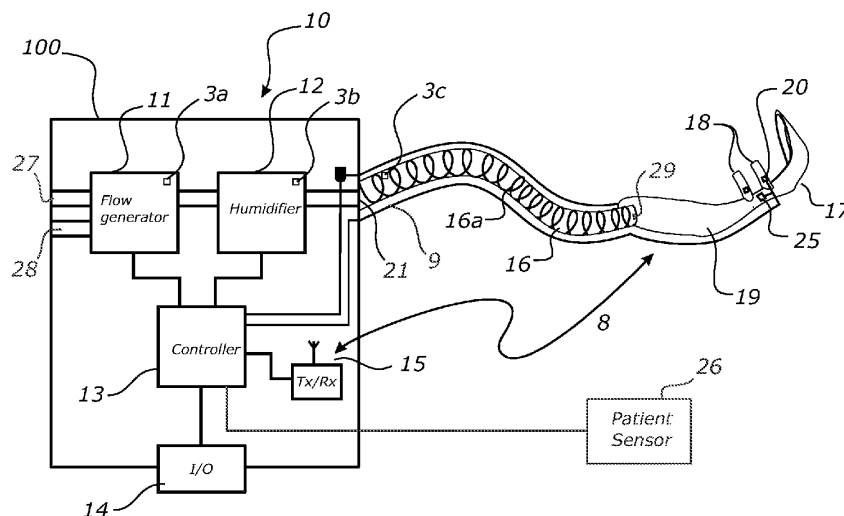


Figure 1A

(57) Abstract: A respiratory apparatus that is configured to provide a flow of gases to a user for respiratory therapy. A flow generator is operable to generate a flow of gases. A controller is operable to control one or more properties of the flow of gases provided to the user by controlling a motor speed of the flow generator. The controller is configured to receive one or more input therapy settings that represents one or more properties desired for the generated flow of gases during a therapy session. The controller predicts if a steady-state temperature of the apparatus will exceed a high-temperature-condition threshold, based at least partly on input therapy setting(s) and a heat model of the apparatus. The controller may generate an alarm and/or initiate an alarm response counteraction control measure in response to the prediction to reduce the risk of the apparatus exceeding the high-temperature-condition threshold.

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(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*