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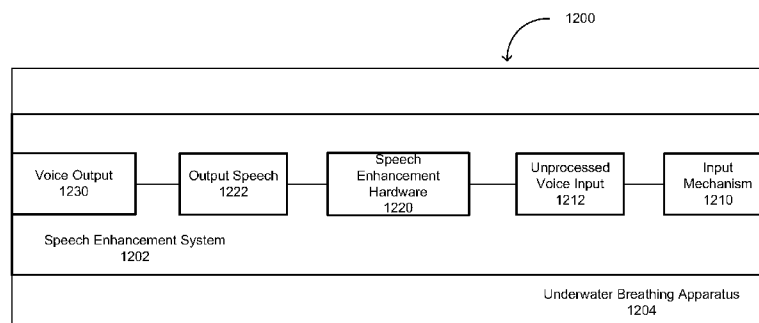
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(54) Title: SYSTEM AND METHOD FOR ENHANCING SPEECH OF A DIVER WEARING A MOUTHPIECE

Fig. 12



(57) **Abstract:** Embodiments described herein provide a system, apparatus and methods to enable a diver to communicate more clearly with other divers or locations. Embodiments process the speech to add clarity, or otherwise convert speech into an outputted form that is more intelligible e.g. so as to simulate the diver's unhindered speech. Embodiments provide hardware and software for receiving and recognizing hindered speech of a diver (e.g., speech hindered by a mouthpiece) and then augmenting the speech with generated output sounds corresponding to the intended speech sound or generating or replacing at least some of the diver's speech with synthesized words. The output sounds may be in the speaker's own voice or a synthesized voice. Embodiments may be configured to add clarity to and/or augment speech that is hindered by the wearing of a mouthpiece from a snorkel, SCUBA or other diving apparatus.

A. CLASSIFICATION OF SUBJECT MATTER***G10L 21/02(2006.01)i, B63C 11/26(2006.01)i, B63C 11/12(2006.01)i***

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G10L 21/02; G10L 15/00; H04B 11/00; G09G 5/00; G10L 21/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: under water, communication, and recognize voice

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 7477207 B2 (ESTEP RANDALL S.) 13 January 2009	1,5-11
A	See column 3, line 23-30; column 9, line 54 - column 10, line 10; and figures 1-3. See the whole documents.	2-4, 12-20
A	US 05579284A A (MAY; DAVID F.) 26 November 1996 See claim 20 and the whole documents.	1-20
A	US 7676372 B1 (OBA TOSHIHIKO) 09 March 2010 See the whole documents.	1-20



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

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Date of the actual completion of the international search

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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