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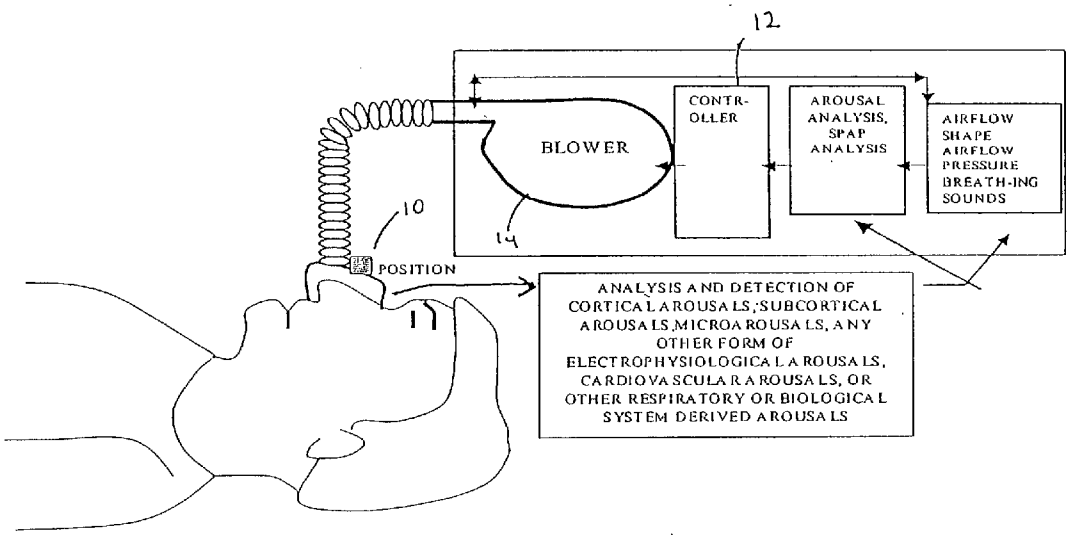
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(54) Title: METHOD AND APPARATUS FOR MAINTAINING AND MONITORING SLEEP QUALITY DURING THERAPEUTIC TREATMENTS



(57) **Abstract:** The present invention monitors and interprets physiological signals and spontaneous breathing events to detect the onset of arousal. Once the onset of arousal is determined, the present invention determines adjustments that are needed in the operation of a therapeutic device to avoid or minimize arousals. In one embodiment, the present invention includes one or more sensors which detect a patient's physiological parameters, a controller which monitors and determines the onset of arousal based on the physiological variables received from the sensor, and a therapeutic treatment device which is controlled by the controller. The sensor can be a combination of one or more devices which are able to monitor a physiological parameter that is used by the present invention to determine the onset of arousal or the onset of a sleep disorder. The sensors can be integrated into one unit or may operate independent of the others.

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