

U.S. Patent No. 9,427,539  
Declaration in Support of Petition for *Inter Partes* Review

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ResMed Inc.,  
Petitioner,

v.

New York University,  
Patent Owner,

Case No. IPR2022-00989

DECLARATION OF DR. KHOSROW BEHBEHANI  
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF  
U.S. PATENT NO. 9,427,539

**TABLE OF CONTENTS**

I.	INTRODUCTION .....	1
II.	EXPERIENCE AND QUALIFICATIONS.....	1
III.	STATUS AS AN INDEPENDENT EXPERT WITNESS.....	6
IV.	UNDERSTANDING OF GOVERNING LAW .....	7
	A. Anticipation.....	7
	B. Obviousness.....	8
V.	RELEVANT TIME PERIOD FOR THE OBVIOUSNESS ANALYSIS.....	10
VI.	MATERIALS RELIED ON IN FORMING MY OPINION.....	10
VII.	BACKGROUND .....	11
	A. Overview of the Technology.....	11
	B. Relationship Between Sleep and Breathing Patterns .....	19
	C. '539 Patent.....	22
	D. The Challenged Claims .....	25
	E. Prosecution History .....	26
VIII.	OVERVIEW OF THE PRIOR ART .....	26
	A. U.S. Patent No. 5,245,995 (Sullivan995) .....	26
	B. PCT Application Publication No. WO 01/05460 A1 (Sullivan460) .....	31
	C. U.S. Patent No. 5,490,502 (Rapoport502) .....	33
IX.	LEVEL OF ORDINARY SKILL IN THE ART .....	34
X.	CLAIM CONSTRUCTION.....	34

XI.	OPINIONS ON GROUND 1: SULLIVAN995 IN VIEW OF SULLIVAN460 RENDERS OBVIOUS CLAIMS 1-2, 5-11, 13, 15-30.....	35
A.	Motivation to Combine .....	35
B.	Reasonable Expectation of Success .....	38
C.	Independent Claim 24 .....	40
1.	<b>Preamble:</b> “ <i>A positive airway pressure system for treatment of a sleeping disorder in a patient, the system comprising:</i> ” .....	40
2.	<b>24[a]:</b> “ <i>a generator supplying airflow and applying a pressure to an airway of a patient;</i> ” .....	42
3.	<b>24[b]:</b> “ <i>a sensor measuring data corresponding to patient's breathing patterns from data indicate of the airflow supplied to the patient using at least one of a flow sensor or pressure sensor; and</i> ” .....	43
4.	<b>24[c]:</b> “ <i>a hardware processor analyzing the breathing patterns to determine whether breathing patterns indicate an asleep state or an awake state have occurred;</i> ” .....	51
D.	Dependent Claims 25-30.....	59
1.	<b>Claim 25:</b> “ <i>The positive airway pressure system according to claim 24, wherein the hardware processor further analyzes the breathing patterns to determine whether breathing patterns indicative of a transition from an awake state to an asleep state have occurred.</i> ” .....	59
2.	<b>Claim 26:</b> “ <i>The positive airway pressure system according to claim 25, wherein the hardware processor determines that breathing pattern indicative of a transition from an awake state to an asleep state occurs when a regularity of breathing is detected.</i> ” .....	63
3.	<b>Claim 27:</b> “ <i>The positive airway pressure system according to claim 25, the hardware processor determines that a transition from an awake state to an</i> ” .....	

*asleep state occurs when a series of obstructions are detected.* .....67

4. **Claim 28:** *“The positive airway pressure system according to claim 25, the hardware processor determines that a breathing pattern indicative of a transition from an awake state to an asleep state occurs when one of a plurality of indicators is present, the indicators being regularity of breathing and a series of obstructions.”* .....71

5. **Claim 29:** *“The positive airway pressure system according to claim 28, wherein the hardware processor sends a control signal to the generator to increase pressure provided to the patient when the hardware processor determines that a breathing pattern indicative of a transition from an awake state to an asleep state has occurred.”* .....72

6. **Claim 30:** *“The positive airway pressure system according to claim 29, wherein the generator is configured to use a ramp system to increase pressure.”* .....74

E. Independent Claims 1 and 11 .....75

1. **Preamble:** *“A positive airway pressure system for treatment of a sleeping disorder in a patient, the system comprising:” / “A method for treatment of sleeping disorder in a patient using a positive airway pressure, the method comprising:”* .....75

2. **1[a]/11[a]:** *“a generator supplying airflow to an airway of a patient;” / “supplying an airflow to an airway of a patient using a flow generator;”* .....75

3. **1[b]/11[b]:** *“one or more flow sensors measuring data corresponding to the supplied airflow; and” / “measuring data corresponding to changes in flow or pressure of the airflow supplied to the patient using at least one of a flow sensor or a pressure sensor;”* .....76

4. **1[c]:** *“at least one hardware processor,”* .....76

5. **1[d]:** “wherein the hardware processor receives the measured data from the one or more flow sensors and provides operational control signals to the generator,” .....76
  6. **11[c]:** “analyzing, using a hardware processor, the measured data to determine whether the data includes breathing patterns indicative of at least one of an awake state or an asleep state;” .....76
  7. **1[e]/11[d]:** “wherein the hardware processor analyzes the measured data to determine whether a patient breathing pattern indicative at least one transition between an awake state and an asleep state has occurred, the hardware processor providing instructions to the generator to adjust the applied pressure in response to the patient's breathing patterns indicative of the at least one transition.” / “when a breathing pattern indicates a transition has occurred between an awake state and an asleep state, adjusting the supplied pressure to a first value. ....76
- F. Dependent Claims 2, 5-10, 13, 15-24 .....80
1. **Claim 2:** “The system according to claim 1, wherein the one or more flow sensors comprise at least one of an airflow sensor or a pressure sensor.” .....80
  2. **Claim 5, 17:** “The system according to claim 1, wherein when the patient breathing pattern indicative of a change from the awake state to the asleep state has occurred, the hardware processor transmits an operational control signal to the generator to increase a pressure of airflow provided to the patient.” / “The method according to claim 11, further comprising controlling the generator to increase the supplied pressure when a breathing pattern indicative of one of an elevated upper airway resistance, hypopnea or a repetitive obstructive apnea is detected.” .....80
  3. **Claim 6, 19:** “The system according to claim 5, wherein the hardware processor determines that the patient breathing pattern indicative of a change from the awake

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