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(54) **METHOD AND APPARATUS FOR NULLIFYING THE IMPOSED WORK OF BREATHING**

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(57) **ABSTRACT**

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A method and corresponding medical ventilator for nullifying the work of breathing imposed by the ventilation breathing apparatus during ventilation support of a patient having a source of breathing gas, a pressure sensor, a microprocessor, at least one actuator of a pneumatic system, and driver circuits. The medical ventilator is in fluid communication with the source of breathing and an endotracheal tube which is in fluid communication with the lungs of the patient. At least one driver circuit adjusts at least one actuator to change the supply of the breathing gas. The pressure sensor measures the pressure of the gas proximate the distal end of the endotracheal tube and generates an output based on the sensed pressure. The microprocessor controls the supply of the breathing gas exiting the pneumatic system of the ventilator and is electrically coupled to the output of the pressure sensor. The microprocessor compares the output of the pressure sensor to a predetermined baseline pressure that is greater than zero and, as a result, adjusts the actuator so that the pressure of the gas proximate the distal end of the endotracheal tube is maintained at the predetermined baseline pressure.

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