

[54] RESPIRATING GAS SUPPLY METHOD AND APPARATUS THEREFOR

[75] Inventors: Gerald Durkan, Altoona, Pa.; Leonard M. Sieracki, Columbia, Md.

[73] Assignee: Kircaldie, Randall and McNab, Wethersfield, Conn. ; as trustee

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[58] Field of Search 128/202.22, 203.12, 128/204.21, 204.22, 204.23, 204.24, 204.25, 204.26, 204.28, 205.13, 205.17, 205.24, 716, 725, 200.14, 207.18; 137/834, 841

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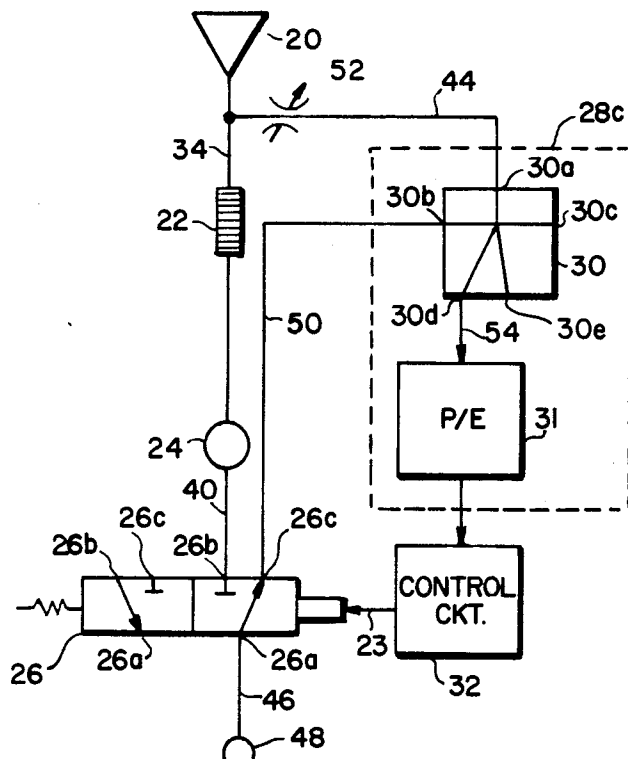
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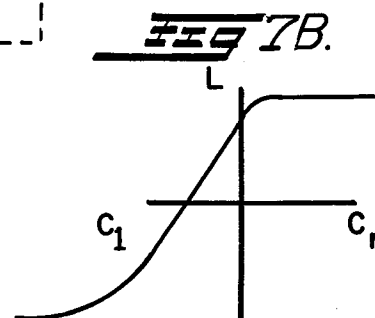
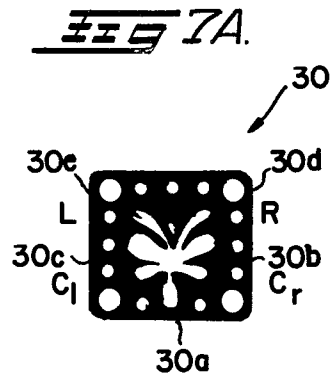
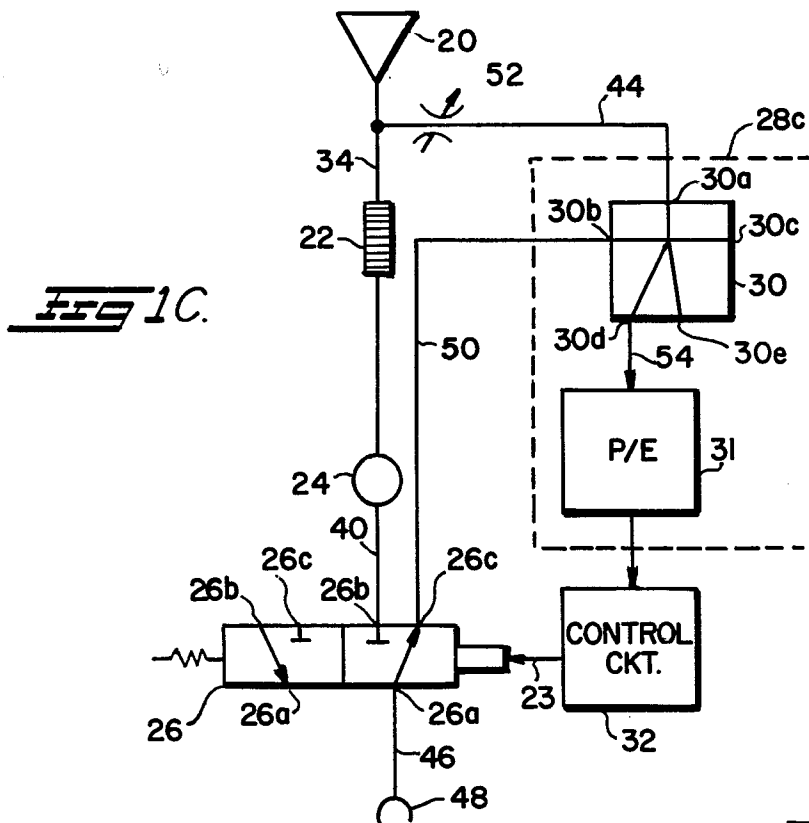
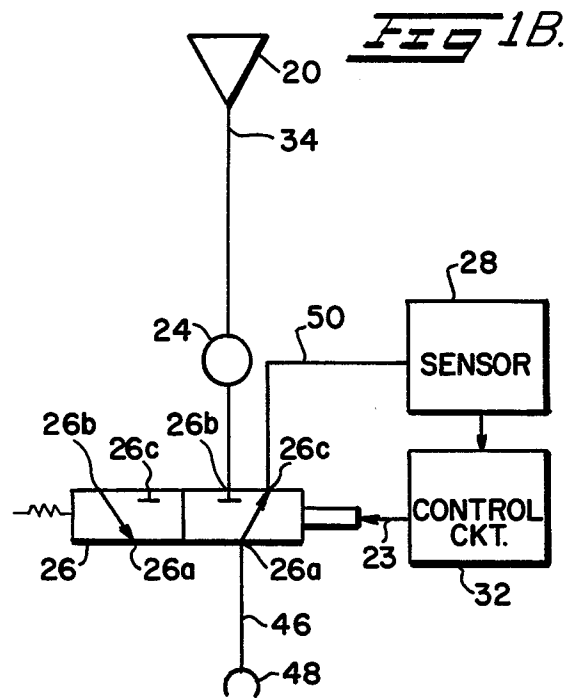
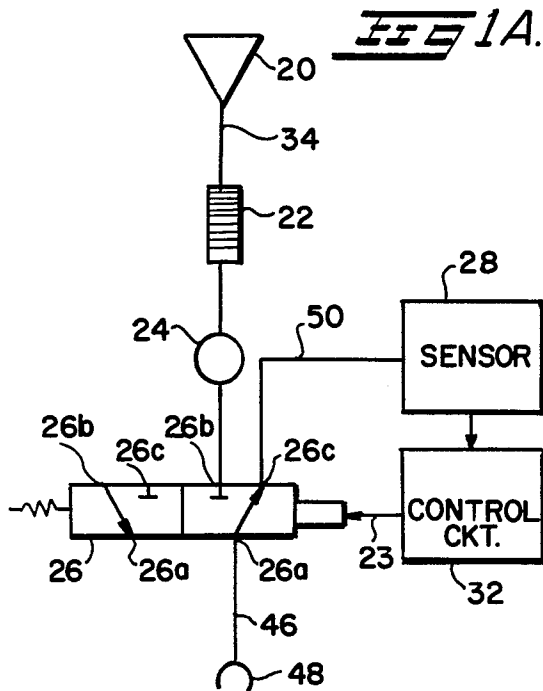
Primary Examiner—Henry J. Recla
Attorney, Agent, or Firm—Griffin, Branigan & Butler

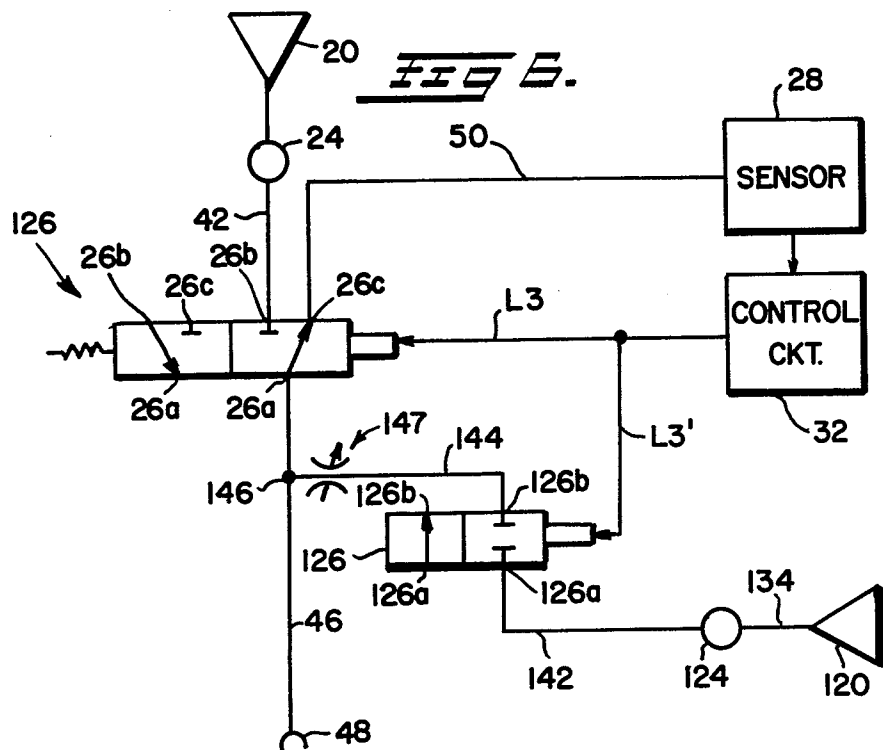
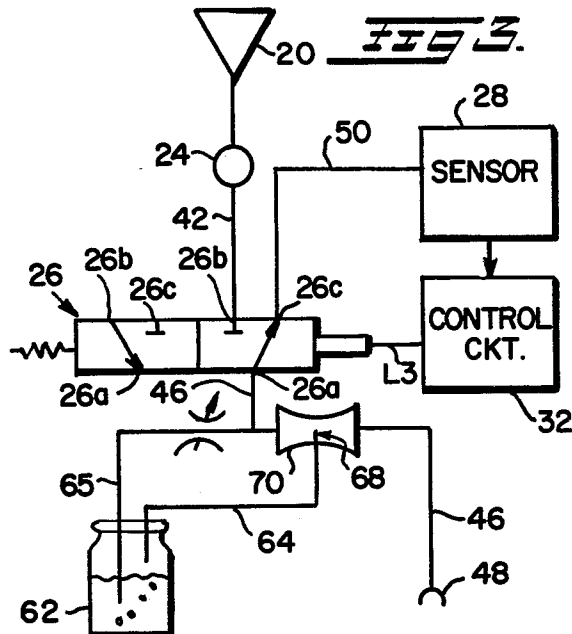
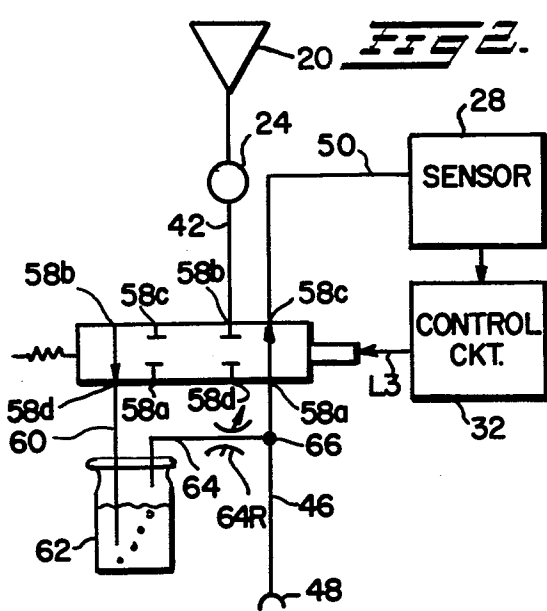
[57] **ABSTRACT**

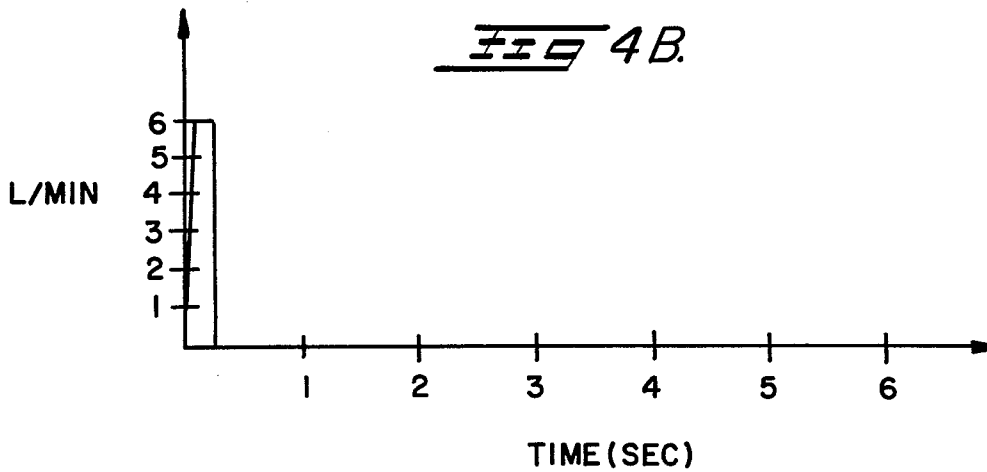
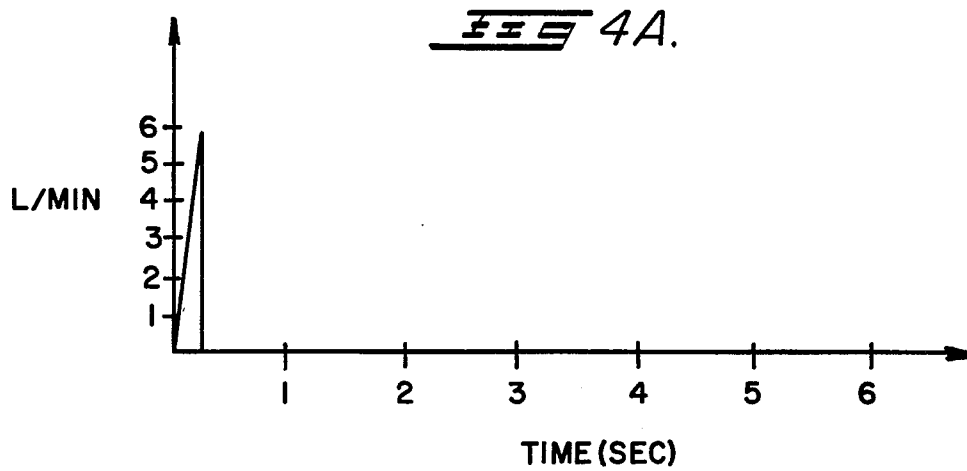
In various embodiments of a respirating gas supply method and apparatus a control circuit (32) responsive to a sensor (28) operates valve means (26) to supply pulses of respirating gas through a single hose cannula (48) to an in vivo respiratory system when negative pressure indicative of inspiration is sensed by the sensor (28). The control circuit (32) operates the valve (26) to communicate the in vivo respiratory system with a supply of gas (20) only if the negative pressure sensed by the sensor (28) does not occur within a predetermined yet selectively variable required minimum delay interval between successive pulsed applications of gas to the in vivo respiratory system. The pulse of gas applied to the in vivo respiratory system can be spiked pulses or square pulses. Humidifiers, nebulizers, and sources of a second gas are provided in accordance with various embodiments. Apnea event detection is also provided.

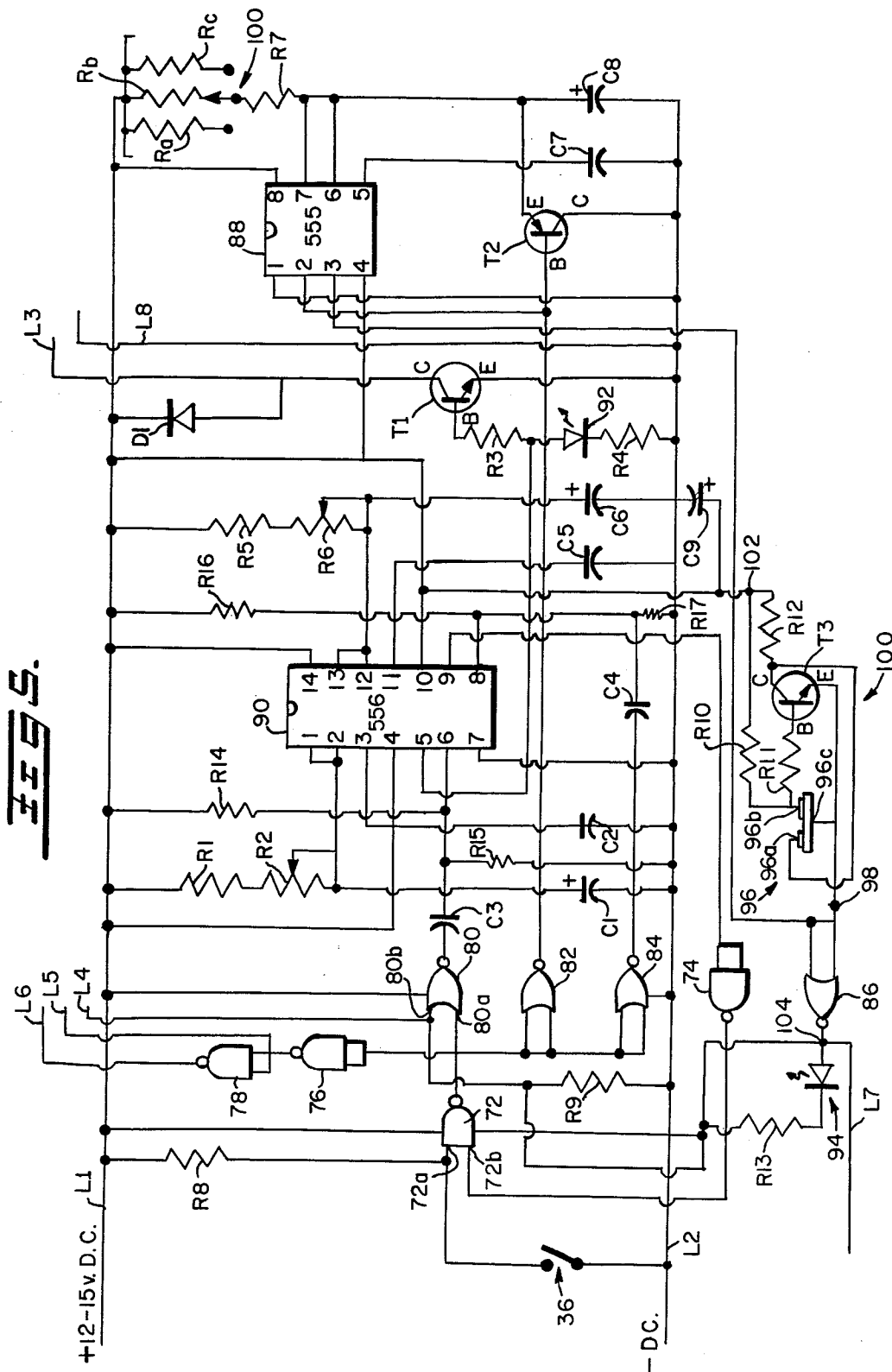
11 Claims, 14 Drawing Figures











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