CLAIMS

1. A respiratory regulation unit comprising:

a case including a cylindrical cavity defined by opposed first and second arcuate walls;

a flexible inspiration line that passes through the cavity and follows the first arcuate wall;

a flexible expiration line that passes through the cavity and follows the second arcuate wall;

a rotatable drum provided within the cavity between the inspiration line and the expiration line, the drum including a peripheral groove formed along the drum's outer periphery, wherein a portion of the inspiration line and a portion of the expiration line are received within the groove; and

a pinch roller provided within the peripheral groove of the rotatable drum; wherein as the rotatable drum rotates, the pinch roller alternately rolls along the portion of the inspiration line within the cavity and pinches it closed against the first arcuate wall and rolls along the portion of the expiration line within the cavity and pinches it against the second arcuate wall so as to alternately close and open the inspiration and expiration lines.

2. The respiratory regulation unit of claim 1, further comprising a housing in which the case is contained.

3. The respiratory regulation unit of claim 1, wherein the portion of the inspiration line that passes through the cavity is longer than the portion of the expiration line that passes through the cavity.

4. The respiratory regulation unit of claim 1, further comprising a motor the rotates the rotatable drum.

5. The respiratory regulation unit of claim 4, further comprising a control configured to change a speed at which the rotatable drum is rotated.

6. The respiratory regulation unit of claim 1, further comprising a control configured to change a pressure of gas delivered to a patient via the inspiration line.

7. The respiratory regulation unit of claim 1, wherein the pinch roller is cylindrical.

8. The respiratory regulation unit of claim 7, wherein the pinch roller has an axis of rotation that is parallel with an axis of rotation of the rotatable drum.

9. The respiratory regulation unit of claim 1, further comprising respiratory cycle indicator configured to

identify a portion of a respiratory cycle that the respiratory regulation unit is regulating at any given time during operation of the respiratory regulation unit.

10. The respiratory regulation unit of claim 9, wherein the respiratory cycle indicator includes an indicator needle that rotates in unison with rotation of the rotatable drum.