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(54) Title: MECHANICAL INSUFFLATION/EXSUFFLATION AIRWAY CLEARANCE APPARATUS

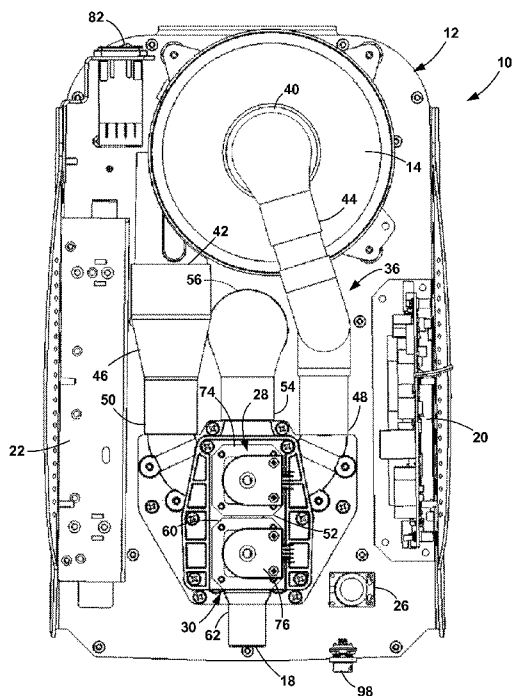


FIG. 4

(57) Abstract: A mechanical insufflation/exsufflation apparatus (10) has a blower (14), a direction valve (28), an oscillator (30), and a mask hose connector (18). The blower (14) is connected to the direction valve (28), which is connected to the oscillator (30), which is connected to the hose connector (18). During insufflation, the direction valve (28) connects the blower exhaust (42) to the oscillator (30), causing positive pressure at the hose connector (18). During exsufflation, the direction valve (28) connects the blower intake (40) to the oscillator (30), causing negative pressure at the hose connector (18). The oscillator (30) is a butterfly valve with a 360° rotating disc (88). During insufflation, the disc (88) is fixed to steadily modulate the airflow. During exsufflation, the oscillator (30) is inactive or in flutter mode. When inactive, the disc (88) is fixed to allow maximum air flow. In flutter mode, the disc (88) continuously rotates so that the air flow rapidly alternates between maximum and minimum.

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