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Fulbrook

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(54) **ULTRAVIOLET DISINFECTING CARTRIDGE SYSTEM**

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(57)

ABSTRACT

An ultraviolet disinfecting cartridge system utilizes an ultraviolet disinfecting cartridge particularly adapted for coupling with a face mask that covers the nose and mouth or to the inhale and exhale tubing of a patient ventilator. The ultraviolet disinfecting cartridge includes multiple UV light emitters that emit UVGI light into the flow channel of the cartridge to neutralize or destroy pathogens. A plurality of baffles may be configured in the flow channel to create a serpentine airflow to increase pathogen exposure time to UV light. A photocatalyst material such as titanium oxide may be configured within the flow channel that is activated by UV light to increase disinfection. An ionizer may be configured proximal to the inlet to produce charged particles that provide disinfection. Any ozone produced may be mitigated by a catalytic converter to a safe level. Inlet and outlet filters may be detachably attachable to the ultraviolet disinfecting cartridge.

13 Claims, 4 Drawing Sheets

