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# United States Patent [19]

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**Bongiovanni et al.**

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[54] **SELF-CONTAINED ISOLATION AND ENVIRONMENTAL PROTECTION SYSTEM**

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[52] U.S. Cl. .... **600/21**

[58] Field of Search ..... 600/21, 22; 135/91, 135/92, 93

### [57] ABSTRACT

A self-contained isolation and environmental protection life support system for shielding a patient contained therein or, alternatively, isolating a contaminated patient from a clean environment while allowing treatment of traumatic injuries to the patient. The system comprises the combination of an environmental control system (ECS) and a containment enclosure that are designed to function in concert with conventional life support stretcher. The ECS component possesses an air management system that is designed and configured to extract contaminated particles and gas from the external air and deliver the same to the patient contained within the containment enclosure. To facilitate such delivery, the containment enclosure is preferably provided with a plurality of tubular passages which are designed to be filled with air provided by the ventilator system to thus cause the containment enclosure to expand to form a semi-rigid structure. A multiplicity of apertures formed upon the tubular passages that causes the purified air to pass therethrough and wash over the patient in a head-to-toe direction such that rapid removal of toxic residues is facilitated. The system further includes heating and cooling systems integrated into the ECS coupled with an environmental sensor to regulate attemperated air to a desired temperature depending on the conditions of the external environment.

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**15 Claims, 3 Drawing Sheets**

