

PROPRIETARY

Auto-sterilizing Breathing Apparatus

The use of N95 masks or cloth masks requires their daily replacement. A device is being proposed which is a permanent replacement for those masks and also eliminates the current -- and potentially catastrophic -- flaw in those masks:

Today, the user's exhaled air is vented into the room and can contaminate anyone in the room. This apparatus sterilizes that air *before it can return to the room*.

The Apparatus

A simple device has been prototyped that eliminates the use of such masks. This device requires little or no maintenance and would last for many, many years.

The device consists of what looks like a standard police vest but that contains interior baffles of titanium dioxide coated mesh, several arrays of ultra violet LEDs, a fan, a battery, a battery charger system and a face mask.



A standard vest.

Method of Operation

Air enters the rear of the vest through a small grid on the side of the vest and is pulled through several baffles of titanium dioxide coated mesh. Ultra violet LEDs provide the UV light which allows the titanium dioxide coated mesh to react with the viruses and bacteria in the passing air. The titanium dioxide kills the bacteria and the viruses.

Because the user might be seated in a vehicle, the rear panel of the device is semi-rigid.

Sending the Air to the Front

The underarm side panel connecting the front and rear of the vest acts as a duct to move the partially sterilized air to the front of the vest where the sterilization process is continued using the titanium dioxide coated mesh baffles built into the front panel..

Small Air Reservoir

The front of the vest also acts as a bellows and air reservoir. The front panel does not expand more than an inch when completely filled. The system can accommodate even the breath requirements of a runner.

Sending Sterilized Air to the Face

Air from the front panel's bellows is then sent through a duct to a plastic face mask.

Solving the Contaminated Exhalation Problem

The exhaled air from the user is passed through a one way valve and is then sent to the rear of the vest and is combined with the outside air being pulled into the vest to be sterilized. This then sterilizes the user's exhaled air as well; thus stopping the user's exhalations from contaminating the area and people nearby as they do today.

Power System

The apparatus can use standard battery power drill batteries and chargers from various manufacturers. There is no requirement for the "development" of any of the power systems.

The Titanium Dioxide Mesh

The Titanium Dioxide mesh is available from several vendors.

The Ultra Violet LEDs

The Ultra Violet LEDs are available from several vendors.

The Vest

The vest can be manufactured by any of the existing military vest manufacturers. There is far less complexity to this vest than to any that they manufacture today. The vest would be manufactured in several sizes.

ROBERT BEKEN

8690 Aero Drive #339

San Diego Ca 92123

LaJollaToday@Hotmail.com

858 450 1114

Robert Beken has several scientific patents.

Patents by Inventor Robert A. Beken

Robert A. Beken has filed for patents to protect the following inventions. This listing includes patent applications that are pending as well as patents that have already been granted by the United States Patent and Trademark Office (USPTO).

Muon detector

Patent number: 7863571

Abstract: An economical position-sensing muon detector for muon radiography is constructed using a pair of glass plates spaced apart by crossed parallel barriers. Smaller detector wires are interspersed between the barriers and an ionizing gas is used to fill the space between the plates. A muon striking near where detector wires cross causes a local momentary current flow. The current flow in two of the detector wires is sensed to determine the coordinates of the muon impact. Such muon detectors can be assembled in modular surface arrays and such arrays can be positioned on spatial surfaces for differential inspection and detection of muons transiting through and emanating from objects placed within the inspection space. Such a detector constitutes a novel and useful invention in providing an inspection device and means for cargo or cargo vehicles that detects muons transiting through and emanating from hazardous materials intended to cause malicious harm.

Muon detector

Publication number: 20090101824

Abstract: An economical position-sensing muon detector for muon radiography is constructed using a pair of glass plates spaced apart by crossed parallel barriers. Smaller detector wires are interspersed between the barriers and an ionizing gas is used to fill the space between the plates. A muon striking near where detector wires cross causes a local momentary current flow. The current flow in two of the detector wires is sensed to determine the coordinates of the muon impact. Such muon detectors can be assembled in modular surface arrays and such arrays can be positioned on spatial surfaces for differential inspection and detection of muons transiting through and emanating from objects placed within the inspection space. Such a detector constitutes a novel and useful invention in providing an inspection device and means for cargo or cargo vehicles that detects muons transiting through and emanating from hazardous materials intended to cause malicious harm.

Type: Application

Filed: September 30, 2008

Publication date: April 23, 2009

Inventor: Robert Beken

Rescue device

Patent number: 6552652

Abstract: A rescue device with a GPS receiver, a computer, and vibration sensors. The device detects and distinguishes vibrations and sends a radio message to a Low Earth Orbit satellite that relays messages to a monitoring facility indicating the type of vibration detected. The geographic location of the device is included in the message. The entire device is constructed to resist vandalism and to permit it to be dropped from an aircraft for installation.

Type: Grant

Filed: October 9, 2001

Date of Patent: April 22, 2003

Assignee: Synergy Microsystems, Inc.

Inventor: Robert A. Beken

Multi-player electronic entertainment system

Publication number: 20020091003

Abstract: A multiplayer electronic entertainment system with a central simulator style device surrounded by a plurality of video game style devices. The simulator style device has a two-player cab with collimated visual displays. The two-player cab is mounted on a hydraulic motion base. Each video game style device is fixed and has a direct view cathode ray tube display. All game devices are interconnected via an Ethernet switch, so that each participant is visible to the others in the electronic imagery that is created on the game devices.

Type: Application

Filed: January 11, 2001

Publication date: July 11, 2002

Inventor: Robert A. Beken

Rescue device

Publication number: 20020053974

Abstract: A rescue device with a GPS receiver, a computer, and vibration sensors. The device detects and distinguishes vibrations and sends a radio message to a Low Earth Orbit satellite that relays messages to a monitoring facility indicating the type of vibration detected. The geographic location of the device is included in the message. The entire device is constructed to resist vandalism and to permit it to be dropped from an aircraft for installation.

Type: Application

Filed: October 9, 2001

Publication date: May 9, 2002

Inventor: Robert A. Beken