

CLAIMS

What is claimed is:

1. A germicidal partition system comprising:
 - at least one negative ion generator comprising:
 - at least one negative high-voltage source;
 - at least one high-voltage conductor electrically connected to the at least one negative high-voltage source; and
 - at least one anode electrically connected to the at least one high-voltage conductor; and
 - at least one fan configured to:
 - draw air into the system;
 - direct the air through the at least one negative ion generator; and
 - output the air through at least one manifold, wherein the air outputted through the at least one manifold is configured to create a barrier between a first air mass and a second air mass, such that the outputted air reduces at least one of the transfer of contaminants or the concentration of viable contagions between the first air mass and the second air mass.
2. The system of claim 1 wherein the system is mounted above a doorway or portal or on a ceiling.
3. The system of claim 2 wherein the outputted air subtends a majority of the width of the doorway or portal and extends downward for at least four feet.
4. The system of claim 1 wherein the system further comprises at least a first sensor in communication with a control system, such that the control system is configured to alter a state of at least one of the at least one fan or the at least one negative ion generator when the sensor receives a stimulus.

5. The system of claim 4, wherein the stimulus is at least one of a motion stimulus or a sound stimulus.
6. The system of claim 4 wherein, upon receiving the stimulus, the control system activates the fan for a set duration of time and, once the duration of time has lapsed, the control system deactivates the fan.
7. The system of claim 1, wherein the system is configured to output the air with an ozone concentration less than 0.01 parts per million higher than the concentration of ozone in ambient air.
8. The system of claim 1 wherein:
 - the at least one manifold is attached to the at least one anode; and
 - the at least one manifold is removably attached to the system, such that the at least one manifold can be removed with the at least one anode from the system and cleaned or exchanged with at least one replacement manifold and at least one replacement anode.
9. The system of claim 1 wherein the system is configured to be portable and worn on a garment.
10. The system of claim 1 wherein:
 - the air outputted through the at least one manifold is laminar; and
 - the air outputted through the at least one manifold comprises at least 1 million negative air ions per cubic centimeter of air.
11. The system of claim 1 wherein acoustic noise produced by the system during operation is less than 55 dBA.
12. The system of claim 1 wherein the system is powered by at least one of by mains AC, a battery, or any combination thereof.

13. The system of claim 1 wherein the air outputted through the at least one manifold has a net cross-sectional shape of at least one of a polygon, circle, ellipse, or oval.
14. The system of claim 1, wherein the system does not comprise a filter.
15. A method of creating a germicidal partition, the method comprising:
 - receiving, through a fan, air from an ambient environment;
 - directing the air over at least one negative ion generator comprising:
 - at least one negative high-voltage source;
 - at least one high-voltage conductor electrically connected to the at least one negative high-voltage source; and
 - at least one anode electrically connected to the at least one high-voltage conductor; and
 - outputting the air through at least one manifold, wherein the air outputted through the at least one manifold is configured to create a barrier between a first air mass and a second air mass, such that the outputted air reduces at least one of the transfer of contaminants or the concentration of viable contagions between the first air mass and the second air mass.
16. The method of claim 15, wherein the air outputted through the at least one manifold maintains a concentration of at least 1 million negative air ions per cubic centimeter of air for a distance of at least four feet from the at least one manifold.
17. The method of claim 15, wherein the air outputted through the at least one manifold is laminar.
18. The method of claim 15, wherein the air outputted through the at least one manifold comprises at least 1 million negative air ions per cubic centimeter of air.
19. A method of building a germicidal partition system, the method comprising:
 - electrically connecting at least one high-voltage conductor to at least one negative high-voltage source and at least one anode, wherein the at least one high-voltage conductor, the at

least one negative high-voltage source, and the at least one anode comprise a negative ion generator; and

connecting the negative ion generator to a fan configured to:

draw air into the system;

direct the air over the at least one anode; and

output the air through at least one manifold, wherein the air outputted through the at least one manifold is configured to create a barrier between a first air mass and a second air mass, such that the outputted air reduces at least one of the transfer of contaminants or the concentration of viable contagions between the first air mass and the second air mass.

20. The method of claim 19, wherein the air outputted through the at least one manifold is a negatively charged laminar air curtain.