AIRBORNE PATHOGENS REDUCTION DEVICE

FIELD OF INVENTION

[01] This application relates to an air treatment device that will reduce the spread of airborne health hazardous matter like pathogens, viruses, bacterium and etc. More specifically, the present application is directed to apparatuses and methods designed to reduce airborne pathogens transmission by exhalation or inhalation from one person or living being to another.

BACKGROUND OF THE INVENTION

[02] Toward the end of year 2019, China was hit with a corona virus outbreak. This virus was later named by the World Health Organization as COVID-19. By December 2020, the COVID-19 infection has spread worldwide to become a pandemic. Globally, about sixty five million victims were infected with about one million five hundred thousand deaths. Many nations implemented partial or full lock down and closed their border to international travel. Many business activities grounded to a near halt. As the number of infection goes down, nations started to re-open their economic activities. As soon as this happen, the infection rate rebound and nations have to implement the lock down again. As a result, many businesses are facing tremendous pressure of closure. Without the presence of an effective vaccine, it would be difficult to restart business activities.

[03] To reduce the rate of infection, most health authorities typically promote hand washing and covering the mouth with mask to restrict the airborne or aerosolized transmission of the COVID-19 virus. With aerosolized transmission, the viruses linger in the air like a fine mist long after an infected person has departed the area. When the virus is spread by aerosolized transmission, it is extremely

difficult to prevent transmission to additional persons exposed to infected air.

[04] The use of masks will help to reduce the spread of the viruses, but this is fraught with practical difficulties. Masks are physically uncomfortable, they impair breathing (which is already impaired for many patients), and they disrupt speaking. To be effective at all, it would probably be necessary for the masks to be worn not just by the patients, but also by infected individuals who does not exhibit the common symptoms of the infection. While the use of the mask can reduce the spread of virus, it is still not ideal.

[05] Another approach to reducing the transmission of the pathogens is the use of filtration or sanitization systems. US3757495 ("Portable air purifier", 11 September 1973, Figure 1), US5997619 ("Air purification system", 10 July 1998, Figure 2) and US6783578 ("Air purification unit", 31 August 2004, Figure 3) are some of the prior art systems using this approach. These systems are usually placed within an interior area. Interior air is directed into the system and goes through a filtration or sanitization process (example, HEPA or high efficiency particulate air filter, ultra violet light treatment and etc.) that remove or destroy the airborne pathogen. The main problem is that it required a considerable amount of time before the pathogens are removed from the interior air. If there is any infected but asymptomatic patient within the area, airborne pathogens are quickly transmitted to most people within its vicinity before the filtration system can effectively clean the interior air. Furthermore, there will usually be some blind spot regions of the enclosed environment that the system will fail to sanitize.

[06] As an improvement over the filtration or sanitization systems mentioned above, portable version of these systems was invented. Some examples are US7008469 ("Portable air filtration system utilizing a conductive costing and a filter for use therein", 7 March 2006, Figure 4) and WO2018/178231 ("Personalized air

cleaning device", 30 March 2017, Figure 5). These improved systems can be placed near infected patients and provide an improvement in term of pathogens spread. The problem is that there is still a considerable gap between the infected patient's mouth or nose and the portable sanitization system. There is still a high probability of having a large portion of the airborne pathogens emitting from the patient's mouth or nose being transmitted to individuals nearby.

[07] WO2011/006509 ("Device and method for reducing spread of microorganisms and airborne health hazardous matters and/or for protection from microorganisms and airborne health hazardous materials", 17 July 2009) in Figure 6 shows a filtration or ventilation device for reducing the transmission of the airborne pathogens. The filtration device is mounted on furniture (example, the head region of a bed). Air exhalation from a person is directed into the filtration device and cleansed. Like the previous filtration system mentioned above, there is still a considerable gap between the infected patient's mouth or nose and the filtration device. There is a considerable risk of airborne pathogens transmission.

[08] Another method to reduce pathogens spread is the use of a modified ventilation system. The theory is that dilution of infectious air with clean air will reduce the concentration of pathogens and hence the likelihood of transmission of the disease. US4035018 ("Device for distributing conditioned air", 17 Oct 1975, in Figure 7), US6318113 ("Personalized air conditioned system",12 June 2000 in Figure 8), US6910961 ("Indoor ventilation system with personalized ventilation device and its method of usage", 17 September 2003 in Figure 9), US7892306 ("Multi-use personal ventilation filtration system", 25 September 2008, Figure 10) and US9050382 ("Close proximity airborne influenza/pathogen mitigator",6 March 2014, Figure 11) are some examples. Clean air from a ventilation system is released around the facial zone of a person. This method of operation reduces

the person from airborne pathogens infection. The problem is that it also accelerates the spread the airborne pathogens from an infected person to other uninfected individuals around the enclosed environment who are not cover by the system.

[09] Many medical experts and scientists have expressed their opinion that a pandemic like COVID-19 can only be solved with an effective vaccine. Unfortunately, the applications of an effective vaccination program are filled with many obstacles. First, the development of vaccine is usually a very long process. By cutting short this process, the long term side effects of the vaccination cannot be determined. Second, even if the vaccine is safe, there is not enough data to determine the effective duration of protection. Third, the storage, transportation and distribution of vaccine required enormous resources. Forth, it may be difficult to convince the majority of the general population that the vaccine is safe and effective. For the short to medium term, it may not be wise to rely solely on the development of vaccine.

[10] The wearing of mask, social distancing, frequent hand washing and current air sanitization or filtration systems helps to reduce the spread of the virus, but it is still not enough. It is the objective of this application to provide a method of reducing the spread of pathogens or viruses outbreak while allowing a safe re-opening of business activities.

SUMMARY OF THE INVENTION

[11] In accordance with one embodiment, an airborne pathogen reduction device creates a suction force at an air inlet that is placed around the mouth or nose region of a living being or person. Airborne pathogens or droplets exhaled from the person are being sucked into the airborne pathogen reduction device through

the air inlet. These pathogens go through a sanitization process before it is released back to the environment.

BRIEF DESCRIPTION OF THE DRAWING

[12] In the drawings, closely related figures have the same number but different alphabetic suffixes.

Figure 1 shows a prior art patent US3757495.

Figure 2 shows a prior art patent US5997619.

Figure 3 shows a prior art patent US6783578.

Figure 4 shows a prior art patent US7008469.

Figure 5 shows a prior art patent WO2018/178231.

Figure 6 shows a prior art patent WO2011/006509.

Figure 7 shows a prior art patent US4035018.

Figure 8 shows a prior art patent US6318113.

Figure 9 shows a prior art patent US6910961.

Figure 10 shows a prior art patent US7892306.

Figure 11 shows a prior art patent US9050382.

Figure 12 shows an airborne pathogen transmission within an office meeting environment.

Figure 13 shows an office meeting environment with a number of airborne pathogens reduction devices.

Figure 14 shows a rear view of an office worker speaking in front of an airborne pathogen reduction device.

Figure 15 shows a front view of an office worker speaking in front of an airborne pathogen reduction device.

Figure 16 shows an exploded view of an airborne pathogen reduction device around the

mouth piece region.

Figure 17 shows an exploded view of an airborne pathogen reduction device around the connector region.

Figure 18 shows an exploded view of a ring holder and a support beam.

Figure 19 shows an airborne pathogen reduction device with a top cover removed.

Figure 20 shows a front view of an airborne pathogen reduction device with a battery removed.

Figure 21 shows an exploded view of an airborne pathogen reduction device.

Figure 22 shows an exploded view of a fan and filter systems in an airborne pathogen reduction device.

Figure 23 shows a hospital ward.

Figure 24 shows an airborne pathogen reduction device used on a patient.

Figure 25 shows a close up view of a patient with an airborne pathogen reduction device.

Figure 26 shows an exploded view of a plurality of rotatable mouth pieces.

Figure 27 shows an exploded view around an electrical power adapter region.

Figure 28 shows a concert event.

Figure 29 shows a concert singer singing on a stage with an airborne pathogen reduction device strapped to his back.

Figure 30 shows a concert audience enjoying the concert with an airborne pathogen reduction device strapped to her back.

Figure 31 shows a close view of an airborne pathogen reduction device.

Figure 32 shows an exploded view of an airborne pathogen reduction device.

Figure 33 shows a sectioned view of a passenger aircraft.

Figure 34 shows a passenger in an aircraft seat with an airborne pathogen reduction device.

Figure 35 shows a back view of a passenger in an aircraft seat.

Figure 36 shows an animal farm.

Figure 37 shows a pig enclosure with an airborne pathogen reduction device.

Figure 38 shows a pig with an airborne pathogen reduction device.

Figure 39 shows a pig enclosure and a sanitization room.

Figure 40 shows a view of a sanitization room.

Figure 41 shows a back view of a sanitization room.

Figure 42 shows a sanitization pool.

Figure 43 shows a view of animal farm.

Figure 44 shows an airborne pathogen reduction device with a splitter.

Figure 45 shows a view of a singular support beam of an airborne pathogen reduction device.

Figure 46 shows view of a telescopic support beam of an airborne pathogen reduction device.

Figure 47 shows an airborne pathogen reduction device with a hand held air pump.

Figure 48 shows a close view of an airborne pathogen reduction device with a hand held air pump.

Figure 49 shows an exploded view of an airborne pathogen reduction device with a hand held air pump.

Figure 50 shows an airborne pathogen reduction device.

Figure 51 shows a close view of an airborne pathogen reduction device using bendable support beams.

DRAWINGS - Reference Numerals

1202 Meeting room

1204 Air purifier

1206 Air conditioner

1208 First office worker

1210 Second office worker

1212 Mist of airborne exhalation droplets

1214 Mist of airborne exhalation droplets

1302 Airborne pathogen reduction device

1304 Mist of airborne exhalation droplets

1306 Mist of airborne exhalation droplets

1308 Meeting room table

1402 Air inlet

1502 Air outlet

1602 Rotatable mouth piece

1604 Gauze

1606 First hollow structure or cylinder tube

1702 Bendable connector or rubber tube

1704 First hollow structure ring holder

1706 First support beam

1708 Second hollow structure or cylinder tube

1710 Second support beam

1712 Second hollow structure ring holder

1802 Ring holder bolt

1804 Support beam fastener

1806 Ring holder nut

1902 Main body

1904 Top cover

2002 Power charging connector

2004 Power off button

2006 Power on button

2008 Battery insertion slot

2010 Battery

2102 Ultraviolet lamp

2202 Fan front panel

2204 Fan middle panel

2206 Motorized fan

2208 Fan rear panel

2210 Filter front panel

2212 Filter

2214 Filter rear panel

2216 Fan slot

2218 Filter slot

2302 Hospital ward

2402 Airborne pathogen reduction device

2404 Patient

2406 Bed

2408 Electrical power supply insertion point

2410 First electrical power supply plug

2412 Electrical power supply cable

2502 Third hollow structure or cylinder tube

2504 First air inlet

2506 First rotatable mouth piece

2508 Second air inlet

2510 Second rotatable mouth piece

2512 Mist of airborne exhalation droplets

2602 First gauze

2604 Second gauze

2606 Air hole

2702 Electrical power adapter

2704 Second electrical power supply plug

2802 Concert event

2902 Airborne pathogen reduction device

2904 Concert singer

2906 Back pack

2908 Mouth piece

2910 Mist of airborne exhalation droplets

3002 Concert audience

3004 Airborne pathogen reduction device

3202 Bendable hollow structure

3204 Motorized fan

3206 Top cover

3208 Battery

3210 Filter

3302 Passenger aircraft

3402 Airborne pathogen reduction device

3404 Passenger

3406 Mist of airborne exhalation droplets

3408 Mouth piece

3502 Bendable hollow connector

3504 Aircraft seat

3602 Animal farm

3604 Pig enclosure

3606 Sanitization room

3608 Sanitization fluid pool structure

3702 Pig

3704 Hollow structure

3802 Mist of airborne exhalation droplets

3804 Air inlet

3902 Motorized fan

3904 First ultraviolet lamp

4002 Filter

4004 Second ultraviolet lamp

4102 Hollow structure

4202 Air outlet

4204 Air bubble

4206 Pool of sanitization fluid bath

4302 Electricity generator

4402 Airborne pathogen reduction device

4404 Splitter cap

4406 Hollow structure splitter

4502 Singular support beam

4504 Ring holder

4506 Hollow structure or cylinder tube

4602 Hollow structure or cylinder tube

4604 Secure tap

4606 Extendable telescopic support beam

4702 Airborne pathogen reduction device

4802 Hand held air pump

4902 First rubber tube

4904 Compressed air storage container

4906 Second rubber tube

4908 Compressed air driven fan

4910 Third rubber tube

5002 Airborne pathogen reduction device

5102 Bendable hollow structure or rubber tube

5104 Hollow structure ring holder

5106 Bendable support beam

DETAILED DESCRIPTION OF THE INVENTION

[13] Figure 12 shows a typical office meeting room 1202 where pathogen transmission can occur between office workers. A first office worker 1208 is talking actively, emitting a mist of airborne exhalation droplets 1214 within the meeting room. A second office worker 1210 is not talking but is also emitting a smaller mist of airborne exhalation droplets 1212 due to breathing. An air conditioner 1206 is pushing out cool air in order to maintain the room temperature at a comfortable level. The effect of the air conditioner 1206 causes air circulation within the meeting room 1202 and accelerates the spread of airborne droplets from different office workers. If any of the officer workers are active carrier of an infectious pathogen, all the office workers within the meeting room 1202 will be infected within a short period of time. An air purifier 1204 helps to remove some of the airborne pathogen within the meeting room 1202. Unfortunately, the effect of the air purifier 1204 is not enough to prevent the

spread of an infectious pathogen.

[14] One embodiment of an airborne pathogen reduction device 1302 is shown in Figure 13. A number of the airborne pathogen reduction device 1302 are placed on a meeting room table 1308 in front of each of the office workers. The airborne pathogen reduction device 1302 reduces the spread of infectious airborne pathogen to a smaller mist of airborne exhalation droplets 1304 from the first office worker 1208 who is talking. Similarly for second office worker 1210, a smaller mist of airborne exhalation droplets 1306 is formed. Referring to Figure 14, the mist of airborne exhalation droplets 1304 emitting from the mouth and nose of first office worker 1208 are being sucks into the airborne pathogen reduction device 1302 through an air inlet 1402. The position of the air inlet 1402 can be adjusted so that it is directly in front of the first office worker's 1208 mouth and nose. This will ensure maximum reduction of the airborne exhalation droplets 1304 from the first office workers 1208. The contaminated air that contains most of the airborne exhalation droplets 1304 are sanitized within the airborne pathogen reduction device 1302 and released from an air outlet 1502 shown in Figure 15.

[15] In Figure 16, a closed up view of the airborne pathogen reduction device 1302 is shown. A gauze 1604 slides into the air inlet 1402 on a rotatable mouth piece 1602. The gauze 1604 prevents particles or unwanted materials from entering the device 1302. The mouth piece 1602 is connected a first hollow structure or cylinder tube 1606. Any airborne pathogens pick up through the air inlet 1402 are transported along the first cylinder tube 1606 into the airborne pathogen reduction device 1302. It is to be appreciated that the first hollow structure or cylinder tube 1606 may not necessary be cylindrical in shape.

[16] Referring to Figure 17, the first cylinder tube 1606 is connected to a second

hollow structure or cylinder tube 1708 by using a bendable connector or rubber tube 1702. It is to be appreciated that the bendable connector or rubber tube 1702 may be made with any material that satisfied the bending requirement. This connection is repeated over a plurality of cylinder tubes so that the air inlet 1402 can be placed at strategic position to capture maximum amount of airborne pathogens from a user. The first cylinder tube 1606 is secured to the second cylinder tube 1708 using a first hollow structure ring holder 1704, a first support beam 1706, a second support beam 1710 and a second hollow structure ring holder 1712. Figure 18 shows an exploded view of the first ring holder 1704 and the first support beam 1706. The first ring holder 1704 slides along the second cylinder tube 1708 until a suitable position is found and secured in placed by tightening a ring holder bolt 1802 against a ring holder nut 1806. In order to secure the second cylinder tube 1708 to the first cylinder tube 1606 in a specific position, a support beam fastener 1804 is tightened against the first support beam 1706 and the first ring holder 1704. This securing process is repeated on the second support beam 1710 and the first ring holder 1704. A similar securing process is done on the second ring holder 1712 and the first cylinder tube 1606.

[17] Figure 19 shows the airborne pathogen reduction device 1302 with a top cover 1904 detached from a main body 1902. In Figure 20, a power on button 2006 and a power off button 2004 are used to activate and deactivate the device 1302. A battery 2010 is removed from a battery insertion slot 2008. A power charging connector 2002 located at the front of the device 1302 is used to charge the battery 2010. It is to be appreciated that the battery 2010 may be design using chemical material like lithium, cobalt and etc. The battery 2010 may also be implemented using hydrogen fuel cells technology, nuclear battery technology and etc. Referring to Figure 21, an ultraviolet lamp 2102 is used to destroy

airborne pathogens when air is forced to pass over it and exit at the air outlet 1502. A detail view of a fan and filter system of the device 1302 is shown in Figure 22. The fan system is comprises of a fan front panel 2202, a fan middle panel 2204, a motorized fan 2206 and a fan rear panel 2208. These components are assembled and slotted into a fan slot 2216. The purpose of the fan 2206 is to force air mobility from the right side to the left. This action will cause a vacuum environment, creating a suction force in the air inlet 1402 (Figure 14). It is to be appreciated that the fan 2206 may be replaced by any form of air mobility device like pump, rotational fins and etc. Contaminated air is forced through a filter system comprises of a filter front panel 2210, a filter 2212 and a filter rear panel 2214. The filter system is assembled and slotted into a filter slot 2218. Particles and pathogens are trap in the filter system. It is to be appreciated that the filter 2212 may be replaced by HEPA (High efficiency particulate air) filter, pleated paper air filter, fibreglass air filter, reusable air filter, foam air filter, cotton gauze air filter and stainless steel mesh filter. To ensure total elimination of and pathogens, the contaminated air is forced to pass through along the ultraviolet lamp 2102 before exiting at the air outlet 1502 (Figure 21). It is to be appreciated that the ultraviolet lamp 2102 may be replaced by other form of pathogens elimination device like radiation emitting device, heating device and etc.

[18] Figure 23 shows another application in a hospital ward 2302. Another embodiment of an airborne pathogen reduction device 2402 is shown in Figure 24. The device 2402 is used on a patient 2404 lying on a bed 2406. Electrical power is supplied to the device 2402 through a power supply cable 2412 and a first power supply plug 2410. The plug 2410 is inserted into an electrical power supply insertion point 2408. In this embodiment, electricity is supply to the airborne pathogen reduction device 2402 without the need for battery. In Figure

25, a mist of airborne exhalation droplets 2512 from the patient 2404 is suck into a first air inlet 2504 and a second air inlet 2508. In this embodiment, a plurality of mouth piece are used to provide larger area of coverage. A first rotatable mouth piece 2506 is attached to a third hollow structure or cylinder tube 2502, and a second rotatable mouth piece 2510 is attached to the first rotatable mouth piece 2506. Figure 26 shows an exploded view of the first rotatable mouth piece 2506 and the second rotatable mouth piece 2510. A first gauze 2602 and a second gauze 2604 prevent particles from entering the device 2402. In addition, a plurality of air holes 2606 allow a larger coverage of suction action around the first rotatable mouth piece 2506 and the second rotatable mouth piece 2510. A second electrical power supply plug 2704 is inserted into an electrical power adapter 2702 to power the airborne pathogen reduction device 2402.

[19] Another application and embodiment of an airborne pathogen reduction device 2902 is shown in Figure 28 and Figure 29 in a concert event 2802. A concert singer 2904 straps on a back pack 2906 which contain the device 2902. A mouth piece 2908 is adjusted so that it is positioned directly in front of the singer 2904. As the singer 2904 sings, a mist of airborne exhalation droplets 2910 generated is being sucks into the device 2902 from the month piece 2908. Figure 30 shows a concert audience 3002 using an airborne pathogen reduction device 3004 that is similar to the singer 2904. In Figure 31, the airborne pathogen reduction device 2902 is removed from the back pack 2906. An exploded view of the airborne pathogen reduction device 2902 is shown in Figure 32 with a top cover 3206 removed. The main difference of this embodiment is a bendable hollow structure 3202. This hollow structure 3202 exhibit high customization because it can be bended at any point of the structure. The device 2902 comprises of a motorized fan 3204, a filter 3210 and a battery 3208.

[20] Referring to Figure 33, another application is shown to be used in a passenger aircraft 3302. In Figure 34, a mist of airborne exhalation droplets 3406 from a passenger 3404 is sucked into a mouth piece 3408 of an airborne pathogen reduction device 3402. The device 3402 is installed on the back of an aircraft seat 3504 as shown in Figure 35. This embodiment uses a bendable hollow connector 3502 for adjustment of the device 3402 to suit the passenger 3404.

[21] Another application is shown in Figure 36 in an animal farm 3602. The animal farm 3602 consists of a pig enclosure 3604, a sanitization room 3606 and a sanitization fluid pool structure. In Figure 37, the pig enclosure 3604 is shown with a pig 3702 surrounded by a hollow structure 3704. It is to be appreciated that the hollow structure 3704 may be assembled with plurality of hollow parts and joints. As shown in Figure 38, a mist of airborne exhalation droplets 3802 from the pig 3702 floats toward a air inlet 3804 and is sucked into the hollow structure 3704. In Figure 39, a motorized fan 3902 in the sanitization room 3606 causes the air to be displaced, creating a vacuum condition that suck the contaminated air from the hollow structure 3704. A first ultraviolet lamp 3904 is activated to destroy any undesirable pathogen. The contaminated air is further cleansed using a filter 4002 and a second ultraviolet lamp 4004 in Figure 40. In Figure 41, the contaminated air is forced into a hollow structure 4102. The contaminated air exit from a series of air outlet 4202 in Figure 42. A series of air bubble 4204 floats up a pool of sanitization fluid bath 4206 further cleansing the contaminated air from pathogen. Figure 43 shows another view of the animal farm 3602. An electricity generator 4302 is used to power all the equipment in the sanitization room 3606. The generator 4302 may be driven by any source like petrol, diesel, alcohol, methanol, biofuel and etc.

[22] It is to be appreciated that the application of the airborne pathogen reduction

device is not limited to those mentioned above. It can also be used in other areas like restaurants, bars, schools, factories, tourism attractions, exhibitions, conventions and etc.

[23] Figure 44 shows another embodiment of an airborne pathogen reduction device 4402. The device 4402 uses a hollow structure splitter 4406 to create three different suction flows. A splitter cap 4404 is used in this situation where only two suction flows are required. In Figure 45, a singular support beam 4502 is secured to a ring holder 4504 which is in turn secured to a hollow structure or cylinder tube 4506. Figure 46 shows another embodiment of securing the device 4402. An extendable telescopic support beam 4606 is used together with a secure tap 4604 which is fixed on a hollow structure or cylinder tube 4602.

[24] Another embodiment of an airborne pathogen reduction device 4702 is shown in Figure 47. This is an application similar to Figure 29 to Figure 32 except that the device 4702 has no battery. As shown in Figure 48, a hand held air pump 4802 is used to power the device 4702. Referring to Figure 49, the pump 4802 forces compressed air through a first rubber tube 4902, compressed air enter a compressed air storage container 4904. Compressed air is released through a second rubber tube 4906 and caused a compressed air driven fan 4908 to rotate. Compressed air exits the fan 4908 through a third rubber tube 4910 into the environment.

[25] Figure 50 shows another embodiment of an airborne pathogen reduction device 5002. In this embodiment, a bendable hollow structure or rubber tube 5102 is secured in place using a plurality of hollow structure ring holders 5104 and a plurality of bendable support beam 5106.

[26] The advantages of the airborne pathogen reduction device are as followed:

1. It provides an alternative solution to a pandemic situation where the

pathogen is spread by airborne transmission.

2. It is customizable to each individual and environment.

3. It provides a cost efficient way to lessen the impact of pandemic on human and business activities.

[26] It is of course to be understood that the embodiments described herein is merely illustrative of the principles of the airborne pathogen reduction device. A wide variety of modifications thereto may be effected by persons skilled in the art without departing from the spirit and scope of the airborne pathogen reduction device as set forth in the following claims.

CLAIMS

What is claimed is:

1. An airborne pathogen reduction device for use in the reduction of a mist of airborne exhalation pathogens from a singular or plurality of living being, comprising:

   a. An air mobility device,

   b. An air sanitization device,

   c. An elongated hollow structure,

   whereby said elongated hollow structure is positioned around an exhalation region of said living being, said air mobility device creates a low pressure condition within said hollow structure, said low pressure condition causes said airborne exhalation pathogens to move into said hollow structure, said airborne exhalation pathogens move into said sanitization device, said sanitization device traps or destroys said airborne exhalation pathogens.

2. The device of claim 1 wherein said air mobility device is selected from the group comprising of singular or plurality of fans, singular or plurality of pumps, and plurality of rotational fins.

3. The device of claim 1 wherein said air sanitization device is selected from the group comprising of singular or plurality of HEPA or High efficiency particulate air filter, singular or plurality of pleated paper air filter, singular or plurality of fibreglass air filter, singular or plurality of reusable air filter, singular or plurality of foam air filter, singular or plurality of cotton gauze air filter, and singular or plurality of stainless steel mesh filter.

4. The device of claim 1 wherein said air sanitization device is selected from the group comprising of UVA or ultraviolet A radiation, UVB or ultraviolet B radiation, and UVC or ultraviolet C radiation.

5. The device of claim 1 wherein said air sanitization device is selected from the group comprising of oil based fluid bath, and water based fluid bath.

6. The device of claim 1 wherein said air sanitization device is selected from the group comprising of heater and infrared radiation device.

7. The device of claim 1 wherein said elongated hollow structure is adjustable or bendable to cater to said living being.

8. The device of claim 1 wherein said elongated hollow structure comprises of a plurality of hollow structures, a plurality of holders and a plurality of support beams, whereby said hollow structures are secured using said holders and said support beams.

9. The device of claim 1 wherein said elongated hollow structure comprises of a plurality of hollow structures, a plurality of secure taps, and a singular or plurality of extendable support beams, whereby said hollow structures are secured with said secure taps and said extendable beams.

10. The device of claim 1 wherein said elongated hollow structure comprises of a plurality of hollow structures, and a plurality of bendable hollow connectors,

whereby said hollow structures are secured to each others using said bendable hollow connectors.

11. The device of claim 1 wherein said elongated hollow structure is bendable, further including a plurality of holders, and a singular or plurality of bendable support beams, whereby said elongated hollow structure is secured using said holders and said bendable support beams.

12. The device of claim 1 wherein the shape of said elongated hollow structure is selected from the group comprising of circle, oval, square, rectangle, and polygon.

13. The device of claim 1, further including a singular or plurality of mouth piece attached to said elongated hollow structure and positioned around an exhalation region of said living being.

14. The device of claim 1, further including a hollow structure splitter.

15. A method of reducing a mist of airborne exhalation pathogens from a singular or plurality of living being, comprising the steps of:

a. providing an elongated hollow structure around an exhalation region of said living being,

b. providing an air mobility device,

c. creating a low pressure region within said elongated hollow structure using said air mobility device,

d. moving said mist of airborne exhalation pathogens into said elongated hollow

structure,

e. providing an air sanitization device,

f. moving said mist of airborne exhalation pathogens into said air sanitization device,

g. sanitizing said mist of airborne exhalation pathogens using said air sanitization device,

whereby said airborne exhalation pathogens is trapped or destroyed.

16. The method of claim 15 wherein said air mobility device is selected from the group comprising of singular or plurality of fans, singular or plurality of pumps and plurality of rotational fins.

17. The method of claim 15 wherein said air sanitization device is selected from the group comprising of singular or plurality of HEPA or High efficiency particulate air filter, singular or plurality of pleated paper air filter, singular or plurality of fibreglass air filter, singular or plurality of reusable air filter, singular or plurality of foam air filter, singular or plurality of cotton gauze air filter, and singular or plurality of stainless steel mesh filter.

18. The method of claim 15 wherein said air sanitization device is selected from the group comprising of UVA or ultraviolet A radiation, UVB or ultraviolet B radiation, and UVC or ultraviolet C radiation.

19. The method of claim 15 wherein said air sanitization device is selected from the group comprising of oil based fluid bath, and water based fluid bath.

20. The method of claim 15 wherein said air sanitization device is selected from the group comprising of heater and infrared radiation device.

21. The method of claim 15 wherein adjusting or bending of said elongated hollow structure to cater to said living being.

22. The method of claim 15 wherein securing of elongated hollow structure using a plurality of hollow structures, a plurality of holders and a plurality of support beams.

23. The method of claim 15 wherein securing of elongated hollow structure using a plurality of hollow structures, a plurality of secure taps, and a singular or plurality of extendable support beams.

24. The method of claim 15 wherein securing of elongated hollow structure using a plurality of hollow structures, and a plurality of bendable hollow connectors.

25. The method of claim 15 wherein bending of said elongated hollow structure, further including securing of said elongated hollow structure using a plurality of holders, and a singular or plurality of bendable support beams.

26. The method of claim 15 wherein the shape of said elongated hollow structure is selected from the group comprising of circle, oval, square, rectangle, and polygon.

27. The method of claim 15 further providing a singular or plurality of mouth piece,

attaching said mouth piece to said elongated hollow structure, and positioning said mouth piece around an exhalation region of said living being.

28. The method of claim 15 further providing a hollow structure splitter.