Summary

According to a first example of the present disclosure there is provided a wearable air purifier comprising: a headgear; an air purifier assembly, the air purifier assembly configured to generate a filtered airflow from an outlet aperture thereof; and a nozzle assembly connected to the headgear by a hinge assembly, the nozzle assembly comprising an inlet aperture for receiving the filtered airflow from the outlet aperture of the air purifier assembly and an air outlet for emitting the filtered airflow from the nozzle assembly, wherein the hinge assembly is configured such that the nozzle assembly is movable relative to the headgear between first and second configurations, filtered airflow is emitted from the air outlet in the first configuration and filtered airflow is not emitted from the air outlet in the second configuration.

The wearable air purifier according to the first example of the present disclosure may be beneficial principally as the nozzle assembly is connected to the headgear by a hinge assembly, the hinge assembly is configured such that the nozzle assembly is movable relative to the headgear between first and second configurations, filtered airflow is emitted from the air outlet in the first configuration and filtered airflow is not emitted from the air outlet in the second configuration.

In particular, movement of the nozzle assembly between the first and second configurations may ensure that airflow is only emitted from the air outlet to a wearer of the wearable air purifier when the nozzle assembly is in the correct, for example the first, configuration. This may ensure that the air outlet is properly located relative to the wearer in order for delivery of filtered airflow to occur. Filtered airflow generated by the air purifier assembly may only be received by the inlet aperture of the nozzle assembly when the nozzle assembly is in the first configuration. Filtered airflow generated by the air purifier assembly may not received by the inlet aperture of the nozzle assembly when the nozzle assembly is in the first configuration.

and a second filter assembly for providing a second filtered airflow, the first airflow generator and the first filter assembly being disposed within the first and the second airflow generator and the second filter assembly being disposed within the second housing portion.

The air purifier assembly may comprise a first airflow generator and a first filter for providing a first filtered airflow to the first end of the nozzle assembly, and the air purifier assembly may comprise a second airflow generator and a second filter for providing a second filtered airflow to the second end of the nozzle assembly. This may be beneficial as first and second airflow generators may be individually smaller in size than a single airflow generator that is capable of delivering the same total airflow and may provide increased control over filtered airflow provided to a wearer in use, for example with each airflow generator being individually controlled. As described above, the first airflow generator and the first filter assembly may be supported at the first end of headgear, and the second airflow generator and the second filter assembly supported at the second opposite end of headgear.

According to a second example of the present disclosure there is provided a wearable air delivery apparatus comprising a headgear; and a nozzle assembly comprising an inlet aperture for receiving a filtered airflow from an air purifier assembly, and an air outlet for emitting the filtered airflow from the nozzle assembly; the nozzle assembly connected to the headgear by a hinge assembly such that the nozzle assembly is movable between first and second configurations relative to the headgear wherein the filtered airflow is emitted from the air outlet in the first configuration in use, and the filtered airflow is not emitted from the air outlet in the second configuration.

According to a third example of the present disclosure there is provided a wearable air purifier comprising: a headgear; an air purifier assembly, the air purifier configured to generate a filtered airflow; and a nozzle assembly comprising an inlet aperture for receiving the filtered airflow from the air purifier assembly, and an air outlet for emitting the filtered airflow from the nozzle assembly; wherein the nozzle assembly is rotatably

connected to the headgear by a hinge assembly and the wearable air purifier comprises a releasable detent that inhibits rotation of the nozzle assembly relative to the headgear until the detent is released.

In one aspect, the present disclosure refers to a wearable air purifier comprising: a headgear; an air purifier assembly, the air purifier assembly configured to generate a filtered airflow; and a nozzle assembly comprising an inlet aperture for receiving the filtered airflow from the air purifier assembly, and an air outlet for emitting the filtered airflow from the nozzle assembly; wherein the nozzle assembly is rotatably connected to the headgear by a hinge assembly and the wearable air purifier comprises a releasable detent that inhibits rotation of the nozzle assembly relative to the headgear until the detent is released.

The wearable air purifier according to the third example of the present disclosure may be beneficial principally as the nozzle assembly is rotatably connected to the headgear by a hinge assembly and the wearable air purifier comprises a releasable detent that inhibits rotation of the nozzle assembly relative to the headgear until the detent is released. In particular, the releasable detent may ensure correct retention of the nozzle assembly relative to the air headgear in use, until released by a wearer. Once released by a wearer, the nozzle assembly may be rotatable relative to the headgear, which may enable a wearer to move the nozzle assembly in use, for example to a position in which a mouth of the wearer is not occluded, which may aid with talking.

The nozzle assembly may be connected to the headgear by the hinge assembly such that the nozzle assembly moves away from the headgear from a first configuration to a second configuration when the detent is released.

The nozzle assembly may be movable relative to the headgear in a plane parallel to a sagittal plane of a wearer in use.

The detent may be located above the hinge assembly when the headgear is worn by a wearer.

The detent may comprise a first magnetic element and a second magnetic element that cooperates with the first magnetic element to releasably inhibit rotation of the nozzle assembly relative to the headgear.

The detent may comprise a catch and a catch keeper that cooperates with the catch to releasably inhibit rotation of the nozzle assembly relative to the headgear.

sensor, the controller configured to only operate the air purifier assembly when the nozzle assembly is in the first configuration.

According to a fourth example of the present disclosure there is provided a wearable air delivery apparatus comprising a headgear; and a nozzle assembly comprising an inlet aperture for receiving a filtered airflow from an air purifier assembly, and an air outlet for emitting the filtered airflow from the nozzle assembly; wherein the nozzle assembly is rotatably connected to the headgear by a hinge assembly and the wearable air purifier comprises a releasable detent that inhibits rotation of the nozzle assembly relative to the headgear until the detent is released.

According to a fifth example of the present disclosure there is provided a wearable air delivery apparatus comprising a headgear; and a nozzle assembly comprising an inlet aperture for receiving an airflow, and an air outlet for emitting the airflow from the nozzle assembly; the nozzle assembly having a releasable connection to the headgear that when released allows the nozzle assembly to be at least partially separated from the headgear.

The wearable air delivery apparatus may comprise a sensor for detecting when the nozzle assembly is at least partially separated from the headgear. The sensor may be configured to provide an indication when the sensor detects that the nozzle assembly is at least partially separated from the headgear. This indication may comprise generating a corresponding output. The sensor may be configured to detect when the nozzle assembly is fully connected to the headgear. The sensor may be configured to provide an indication when the sensor detects that the nozzle assembly is fully connected to the headgear. This indication may comprise generating a corresponding output. The sensor may comprise a proximity sensor for detecting proximity of a portion of the nozzle assembly to the headgear. Alternatively, the sensor may comprise a contact sensor for detecting contact between a portion of the nozzle assembly and the headgear.

Preferential features of examples of the present disclosure may be equally applied to other examples of the present disclosure, where appropriate.

Claims

1. A wearable air purifier comprising:

a headgear;

an air purifier assembly, the air purifier assembly configured to generate a filtered airflow; and

a nozzle assembly comprising an inlet aperture for receiving the filtered airflow from the air purifier assembly, and an air outlet for emitting the filtered airflow from the nozzle assembly;

wherein the nozzle assembly is rotatably connected to the headgear by a hinge assembly and the wearable air purifier comprises a releasable detent that inhibits rotation of the nozzle assembly relative to the headgear until the detent is released.

2. A wearable air purifier as claimed in Claim 1, wherein the nozzle assembly is connected to the headgear by the hinge assembly such that the nozzle assembly moves away from the headgear from a first configuration to a second configuration when the detent is released.

3. A wearable air purifier as claimed in any of Claims 1 or 2, wherein the nozzle assembly is movable relative to the headgear in a plane parallel to a sagittal plane of a wearer in use.

4. A wearable air purifier as claimed in any of Claims 1 to 3, wherein the detent comprises a first magnetic element and a second magnetic element that cooperates with the first magnetic element to releasably inhibit rotation of the nozzle assembly relative to the headgear .

5. A wearable air purifier as claimed in any of Claims 1 to 3, wherein the detent comprises a catch and a catch keeper that cooperates with the catch to releasably inhibit rotation of the nozzle assembly relative to the headgear.

6. A wearable air purifier as claimed in any of Claims 1 to 5, wherein the hinge assembly comprises first and second portions rotatably connected to one another, the first portion fixedly connected to one of the nozzle assembly and the headgear, and the second portion releasably connected to the other of the headgear and the nozzle assembly.

7. A wearable air purifier as claimed in any of Claims 1 to 6, wherein the nozzle assembly comprises a first end connected to a first end of the headgear by a first hinge, and a second opposite end connected to a second opposite end of the headgear by a second hinge.