CLAIMS

What is claimed is:

1. A filter mesh frame, comprising:

a first mesh, which surrounds to form a cylinder with respect to a first pivot direction; and

a second mesh, which surrounds the first mesh with respect to a first pivot direction and comprises a plurality of bar structures, wherein the bar structures protrude outward with respect to the first mesh and are disposed parallel to the first pivot direction, a groove parallel to the first pivot direction is formed on one side of each bar structure with respect to the first mesh, the bar structure has a U shaped-like cross section on a virtual cross section perpendicular to the first pivot direction, and a width of an opening portion of the U shaped-like cross section facing the first mesh is greater than a width of a bottom portion of the U shaped-like cross section , wherein the number of the bar structures is 8, wherein a ratio of a maximum width of the second mesh on the virtual cross section perpendicular to the first pivot direction to the width of the bottom portion of the U shaped-like cross section is between 5 and 15.

2. The filter mesh frame according to claim 1, wherein the plurality of bar structures are connected to each other by long sides thereof.

3. A filter mesh frame, comprising:

a first mesh, which surrounds to form a cylinder with respect to a first pivot direction; and

a second mesh, which surrounds the first mesh with respect to a first pivot direction and comprises a plurality of bar structures disposed parallel to the first pivot direction, wherein each bar structure has a first frame piece, a second frame piece, and a third frame piece that are sequentially connected by long sides and jointly form a groove, the groove of each bar structure faces the first mesh, the bar structure has a U shaped-like cross section on a virtual cross section perpendicular to the first pivot direction, and a width of an opening portion of the U shaped-like cross section facing the first mesh is greater than a width of a bottom portion of the U shaped-like cross section , wherein the number of the bar structures is 8, wherein a ratio of a maximum width of the second mesh on the virtual cross section perpendicular to the first pivot direction to the width of the bottom portion of the U shaped-like cross section is between 5 and 15.

4. The filter mesh frame according to claim 3, the third frame piece of one of the plurality of bar structures is connected to the first frame piece of another one of the plurality of bar structures, so that the plurality of bar structures surround the first mesh with respect to the first pivot direction.

5. The filter mesh frame according to claim 1 or 3, wherein an angle between 45° and 60°

is comprised between extension lines of two side edges of the U shaped-like cross section.

6. The filter mesh frame according to claim 1 or 3, wherein an angle between 50° and 55° is comprised between extension lines of two side edges of the U shaped-like cross section.

7. The filter mesh frame according to claim 1 or 3, wherein a ratio of a maximum width of the second mesh on the virtual cross section perpendicular to the first pivot direction to the width of the bottom portion of the U shaped-like cross section is between 9 and 10.

8. The filter mesh frame according to claim 1 or 3, wherein a first opening and a second opening are respectively formed on two ends of the first mesh which surrounds to form the cylinder, and the filter mesh frame further comprises:

a fixing device, having a port disposed on an outer side of the first opening and respectively connected to one end of the first mesh and one end of the second mesh, for the first opening to communicate with the port; and

a closing device, disposed on an outer side of the second opening and respectively connected to an other end of the first mesh and an other end of the second mesh, for the second opening to be closed by the closing device.

9. A filter mesh structure, comprising

the filter mesh frame according to any one of claims 1 or 3; and

a filter material, disposed between the first mesh and the second mesh.

10. A method for using the filter mesh structure according to claim 11, wherein a suction force is applied on an outer side of the filter mesh structure to suck filtered air into the filter mesh structure from the first opening, and the filtered air sequentially passes through the first mesh, the filter material, and the second mesh, and then leaves the filter mesh structure.