

A FRESH-AIR VENTILATION SYSTEM FOR INTERNET CAFES

Utility Model Patent — English Translation

English translation prepared for reference only. In case of any discrepancy, the original Chinese patent publication (CN 208382459 U) shall prevail.

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(57) ABSTRACT

The present utility model provides a fresh-air ventilation system for internet cafes, comprising a housing and a top cover hinged to one side of the housing. The housing is divided, by a partition plate fixedly connected inside the housing, into an air inlet chamber and an air outlet chamber. An air intake port communicating with the air inlet chamber and an air exhaust port communicating with the air outlet chamber are defined side by side through one side of the housing. A fan is fixedly connected inside the air intake port. A photocatalytic assembly is fixedly connected in the air inlet chamber, the photocatalytic assembly comprising an axial core and titanium dioxide mesh plates fixed side by side on the axial core. An ultraviolet lamp tube is fixedly connected to the bottom of the top cover above the photocatalytic assembly. A tray is fixedly connected in the air inlet chamber at one side of the photocatalytic assembly, and the tray contains a refreshing essence. An air supply outlet communicating with the air inlet chamber is defined through one side of the housing, and an air outlet port communicating with the air outlet chamber is defined through one side of the housing, with an exhaust fan fixedly connected inside the air outlet port. Air changes can be carried out in the internet cafe, effectively eliminating the breeding of bacteria, germs and the like in the internet cafe and eliminating odors in the internet cafe.

CLAIMS

1. A fresh-air ventilation system for an internet cafe, comprising a housing (1) and a top cover (2) hinged to one side of the housing (1), characterized in that the housing (1) is divided, by a partition plate (3) fixedly connected inside the housing (1), into an air inlet chamber and an air outlet chamber;
an air intake port (100) communicating with the air inlet chamber and an air exhaust port (101) communicating with the air outlet chamber are defined side by side through one side of the housing (1), and a fan (4) is fixedly connected inside the air intake port (100);
a photocatalytic assembly (5) is fixedly connected in the air inlet chamber, the photocatalytic assembly (5) comprising an axial core (50) and titanium dioxide mesh plates (51) fixed side by side on the axial core (50);
an ultraviolet lamp tube (6) is fixedly connected to the bottom of the top cover (2) above the photocatalytic assembly (5);
a tray (7) is fixedly connected in the air inlet chamber at one side of the photocatalytic assembly (5), and the tray (7) contains a refreshing essence;
an air supply outlet (102) communicating with the air inlet chamber is defined through one side of the housing (1), an air outlet port (103) communicating with the air outlet chamber is defined through one side of the housing (1), and an exhaust fan (8) is fixedly connected inside the air outlet port (103).
2. The fresh-air ventilation system for an internet cafe according to claim 1, characterized in that a filter A (9) is fixedly connected in the air inlet chamber at one side of the fan (4).
3. The fresh-air ventilation system for an internet cafe according to claim 1, characterized in that a disk (11) matching the air supply outlet (102) is rotatably connected to the air supply outlet (102), a plurality of oblique air ducts (110) arranged side by side are defined through the disk (11), a motor (10) is provided in the air inlet chamber, support rods (12) fixedly connected to one side wall of the air inlet chamber are fixedly connected to both opposite sides of the motor (10), and an output shaft of the motor (10) is fixedly connected to the disk (11).
4. The fresh-air ventilation system for an internet cafe according to claim 1, characterized in that a protective mesh plate (13) is fixedly connected to the air outlet port (103).
5. The fresh-air ventilation system for an internet cafe according to claim 1, characterized in that a filter B (14) is fixedly connected in the air outlet chamber inside the air exhaust port (101).
6. The fresh-air ventilation system for an internet cafe according to claim 1, characterized in that a pin (15) is fixedly connected to one side of the bottom of the top cover (2), and a slot (104) matching the pin (15) is provided at one side of the top of the housing (1).

DESCRIPTION

A Fresh-Air Ventilation System for Internet Cafes

TECHNICAL FIELD

[0001] The present utility model relates to the technical field of air purification equipment, and in particular discloses a fresh-air ventilation system for internet cafes.

BACKGROUND ART

[0002] An internet cafe is a relatively confined space with poor air circulation; since there are many people in the internet cafe, it is easy for large numbers of bacteria and germs to breed, and there are many people smoking, so the air quality in the internet cafe is relatively poor with a heavy smoke smell. Long-term exposure to such an environment will seriously affect physical health and induce various respiratory diseases. To improve the air quality in internet cafes, fresh-air systems are often installed in internet cafes for air change. At present, the fresh-air systems installed in internet cafes basically only have an air-change function and cannot eliminate harmful substances such as bacteria and germs in the internet cafe, nor can they eliminate the heavy smoke smell in the internet cafe, so improvement is very necessary.

SUMMARY OF THE UTILITY MODEL

[0003] In view of this, it is necessary, in addressing the problems of the prior art, to provide a fresh-air ventilation system for internet cafes having a unique structure, which can eliminate the breeding of bacteria, germs and the like in the internet cafe and eliminate odors in the internet cafe.

[0004] To solve the problems of the prior art, the present utility model discloses a fresh-air ventilation system for internet cafes, comprising a housing and a top cover hinged to one side of the housing; the housing is divided, by a partition plate fixedly connected inside the housing, into an air inlet chamber and an air outlet chamber; an air intake port communicating with the air inlet chamber and an air exhaust port communicating with the air outlet chamber are defined side by side through one side of the housing; a fan is fixedly connected inside the air intake port; a photocatalytic assembly is fixedly connected in the air inlet chamber, the photocatalytic assembly comprising an axial core and titanium dioxide mesh plates fixed side by side on the axial core; an ultraviolet lamp tube is fixedly connected to the bottom of the top cover above the photocatalytic assembly; a tray is fixedly connected in the air inlet chamber at one side of the photocatalytic assembly, and the tray contains a refreshing essence; an air supply outlet communicating with the air inlet chamber is defined through one side of the housing; an air outlet port communicating with the air outlet chamber is defined through one side of the housing; and an exhaust fan is fixedly connected inside the air outlet port.

[0005] Preferably, a filter A is fixedly connected in the air inlet chamber at one side of the fan.

[0006] Preferably, a disk matching the air supply outlet is rotatably connected to the air supply outlet, a plurality of oblique air ducts arranged side by side are defined through the disk, a motor is provided in the air inlet chamber, support rods fixedly connected to one side wall of the air inlet chamber are fixedly connected to both opposite sides of the motor, and an output shaft of the motor is fixedly connected to the disk.

[0007] Preferably, a protective mesh plate is fixedly connected to the air outlet port.

[0008] Preferably, a filter B is fixedly connected in the air outlet chamber inside the air exhaust port.

[0009] Preferably, a pin is fixedly connected to one side of the bottom of the top cover, and a slot matching the pin is provided at one side of the top of the housing.

[0010] The present utility model has the following beneficial effects: the present utility model discloses a fresh-air ventilation system for internet cafes having a unique structure; outdoor air is drawn into the air inlet chamber by the fan, the ultraviolet lamp tube is turned on, and under the irradiation of ultraviolet light, the titanium dioxide mesh plates decompose to produce strongly degrading substances which, together with the air flow, are discharged through the air

supply outlet into the internet cafe room, which can effectively eliminate the breeding of bacteria and germs in the internet cafe. When the air flow passes beside the tray, it carries molecules of the refreshing essence into the air of the internet cafe, effectively eliminating odors in the internet cafe and having a refreshing effect on the people in the internet cafe. Under the suction action of the exhaust fan, the air in the internet cafe is drawn through the air outlet port into the air outlet chamber and discharged outdoors through the air exhaust port. The structure is simple; air changes can be carried out in the internet cafe, effectively eliminating the breeding of bacteria, germs and the like in the internet cafe and eliminating odors in the internet cafe. The filter A can filter the air drawn into the air inlet chamber, improving air quality. Starting the motor drives the disk to rotate around the air supply outlet, and the air flow in the air inlet chamber passes through the rotating oblique air ducts to form an air flow with changing direction, improving the air diffusion efficiency. The protective mesh plate covers the air outlet port, preventing human hands from touching the blades of the exhaust fan and causing injury, which improves safety. The filter B can filter the air in the air outlet chamber, reducing air pollution. When the top cover is closed onto the housing, the pin is automatically inserted into the slot to lock and fix the top cover and the housing together, improving convenience.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a schematic external structural view of the fresh-air system of the present utility model.

[0012] FIG. 2 is a schematic cross-sectional structural view of the fresh-air system of the present utility model.

[0013] The reference numerals are as follows: housing 1; air intake port 100; air exhaust port 101; air supply outlet 102; air outlet port 103; slot 104; top cover 2; partition plate 3; fan 4; photocatalytic assembly 5; axial core 50; titanium dioxide mesh plate 51; ultraviolet lamp tube 6; tray 7; exhaust fan 8; filter A 9; motor 10; disk 11; oblique air duct 110; support rod 12; protective mesh plate 13; filter B 14; pin 15.

DETAILED DESCRIPTION OF EMBODIMENTS

[0014] To enable a further understanding of the features, technical means, and the specific objectives and functions achieved by the present utility model, the present utility model is described in further detail below in conjunction with the accompanying drawings and the detailed description of embodiments.

[0015] Reference is made to FIG. 1 through FIG. 2.

[0016] An embodiment of the present utility model discloses a fresh-air ventilation system for internet cafes, comprising a housing 1 and a top cover 2 hinged to one side of the housing 1; the housing 1 is divided, by a partition plate 3 fixedly connected inside the housing 1, into an air inlet chamber and an air outlet chamber; an air intake port 100 communicating with the air inlet chamber and an air exhaust port 101 communicating with the air outlet chamber are defined side by side through one side of the housing 1; a fan 4 is fixedly connected inside the air intake port 100; a photocatalytic assembly 5 is fixedly connected in the air inlet chamber, the photocatalytic assembly 5 comprising an axial core 50 and titanium dioxide mesh plates 51 fixed side by side on the axial core 50; an ultraviolet lamp tube 6 is fixedly connected to the bottom of the top cover 2 above the photocatalytic assembly 5; a tray 7 is fixedly connected in the air inlet chamber at one side of the photocatalytic assembly 5, and the tray 7 contains a refreshing essence; an air supply outlet 102 communicating with the air inlet chamber is defined through one side of the housing 1; an air outlet port 103 communicating with the air

outlet chamber is defined through one side of the housing 1; and an exhaust fan 8 is fixedly connected inside the air outlet port 103.

[0017] In specific use, outdoor air is drawn into the air inlet chamber by the fan 4, the ultraviolet lamp tube 6 is turned on, and under the irradiation of ultraviolet light, the titanium dioxide mesh plates 51 decompose to produce strongly degrading substances which, together with the air flow, are discharged through the air supply outlet 102 into the internet cafe room; the air in the internet cafe is mixed with the strongly degrading substances, which can effectively eliminate the breeding of bacteria and germs in the internet cafe. When the air flow passes beside the tray 7, it carries the molecular substances of the refreshing essence into the air of the internet cafe, effectively eliminating odors in the internet cafe and having a refreshing effect on the people in the internet cafe. Under the suction action of the exhaust fan 8, the air in the internet cafe is drawn through the air outlet port 103 into the air outlet chamber and discharged outdoors through the air exhaust port 101. The structure is simple; air changes can be carried out in the internet cafe, effectively eliminating the breeding of bacteria, germs and the like in the internet cafe and eliminating odors in the internet cafe.

[0018] Based on the above embodiment, a filter A 9 is fixedly connected in the air inlet chamber at one side of the fan 4. The filter A 9 can filter the air drawn into the air inlet chamber, improving air quality.

[0019] Based on the above embodiment, a disk 11 matching the air supply outlet 102 is rotatably connected to the air supply outlet 102, a plurality of oblique air ducts 110 arranged side by side are defined through the disk 11, a motor 10 is provided in the air inlet chamber, support rods 12 fixedly connected to one side wall of the air inlet chamber are fixedly connected to both opposite sides of the motor 10, and an output shaft of the motor 10 is fixedly connected to the disk 11. Starting the motor 10 drives the disk 11 to rotate around the air supply outlet 102, and the air flow in the air inlet chamber passes through the rotating oblique air ducts 110 to form an air flow with changing direction, improving the air diffusion efficiency.

[0020] Based on the above embodiment, a protective mesh plate 13 is fixedly connected to the air outlet port 103. The protective mesh plate 13 covers the air outlet port 103, preventing human hands from touching the blades of the exhaust fan 8 and causing injury, which improves safety.

[0021] Based on the above embodiment, a filter B 14 is fixedly connected in the air outlet chamber inside the air exhaust port 101. The filter B 14 can filter the air in the air outlet chamber, reducing air pollution.

[0022] Based on the above embodiment, a pin 15 is fixedly connected to one side of the bottom of the top cover 2, and a slot 104 matching the pin 15 is provided at one side of the top of the housing 1. When the top cover 2 is closed onto the housing 1, the pin 15 is automatically inserted into the slot 104 to lock and fix the top cover 2 and the housing 1 together, improving convenience.

[0023] The above embodiments merely express one implementation of the present utility model, and the description thereof is relatively specific and detailed, but it should not be construed as limiting the patent scope of the present utility model. It should be noted that, for a person of ordinary skill in the art, various modifications and improvements may further be made without departing from the concept of the present utility model, and such modifications and improvements all fall within the protection scope of the present utility model. Therefore, the protection scope of the present utility model patent shall be subject to the appended claims.

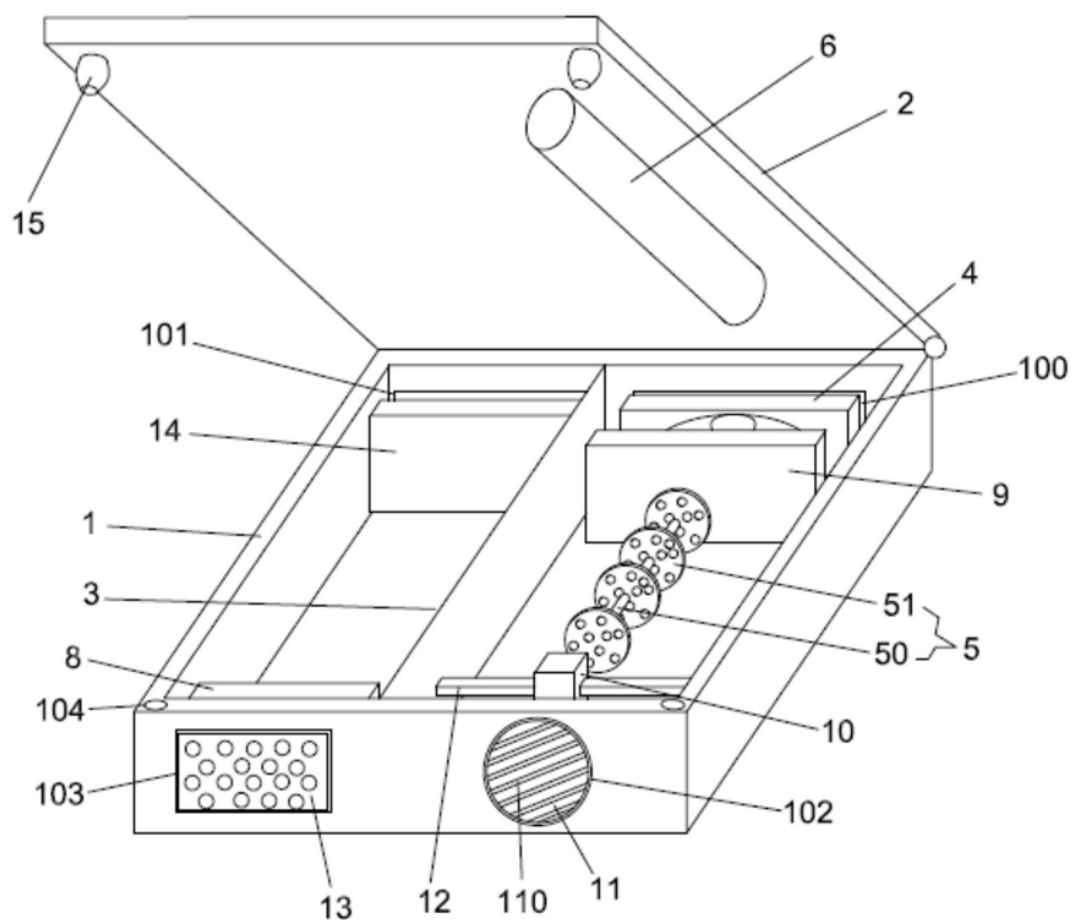


FIG. 1 — Schematic external structural view of the fresh-air ventilation system

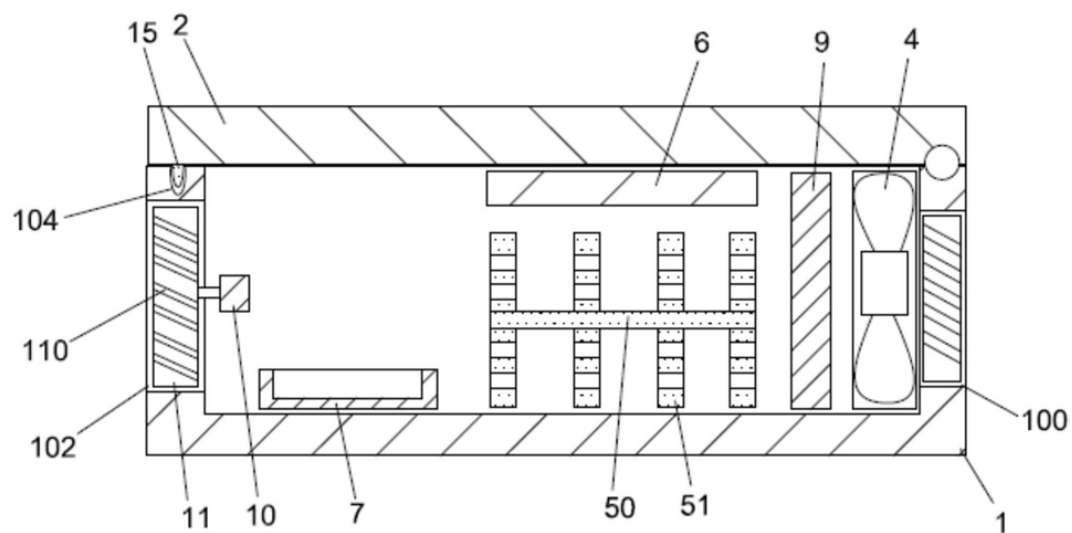


FIG. 2 — Schematic cross-sectional structural view of the fresh-air ventilation system