A fan diversion structure comprises at least one deflector and at least one connecting part. The deflector, which is adapted to be disposed across front of an air outlet of the fan, is disposed on one side next to a center of the fan and without overlapping the center of the fan, wherein the deflector extends outwardly so as to deflect an airflow to the side direction of the fan. The connecting part is adapted for connecting the deflector to the fan. The fan is a ceiling fan, the connecting part is a hollow annular board corresponding to a circular structure of the ceiling fan, the deflector further comprises two joint poles extending from the connecting part, and the joint poles are respectively connected to two sides of the deflector and near to the center of the fan.
FAN DIVERSION STRUCTURE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention
The present invention relates to a fan diversion structure, and more specifically to a structure for deflecting an airflow to one side of a fan.

[0002] 2. Description of the Prior Art
A conventional fan such as an upright fan or a ceiling fan makes air flow forcibly with spin of its plural blades. An airflow direction mainly follows an axial direction of the fan, but convection efficiency around two sides of the fan is lower wherein the heat fails to be diffused efficiently. Furthermore, the upright fan and ceiling fan are limited to a blowing angle range which is pre-set before delivery from a factory. Consequently, the range of the cold airflow can reach is quite restricted. Therefore people sitting at the corner of an interior space often need to bear the muggy environment, and that's a common disadvantage of a conventional fan or ceiling fan structure.

[0003] The present invention is, therefore, arisen to obviate or at least mitigate the above mentioned disadvantage.

SUMMARY OF THE INVENTION

[0004] A primary object of the present invention is to provide a diversion structure that can efficiently deflect an airflow to a side of the fan so as to increase a blowing angle range thereof.

[0005] Another object of this invention is to provide a diversion structure used to be disposed on a conventional fan or a ceiling fan in order to expand a blowing angle range.

[0006] To achieve the above and other objects, a diversion structure used to be disposed on a fan is provided by the present invention. The diversion structure includes at least one deflector and at least one connecting part. The deflector is adapted to be disposed across front of an air outlet of the fan. The deflector is disposed on one side next to a center of the fan and without overlapping the center of the fan, wherein the deflector extends outwardly so as to deflect the airflow to the side of the fan. The connecting part is used for connecting the deflector to the fan. The fan is a ceiling fan, the connecting part is a hollow annular board corresponding to a circular structure of the ceiling fan, the deflector further comprises two joint poles extending from the connecting part, and the joint poles are respectively connected to two sides of the deflector and near to the center of the fan.

[0007] In this way, the airflow from the fan not only converges in the axial direction of the fan, but also moderately extends to the side of the fan so as to increase the blowing angle and enhance convection efficiency around the fan.

[0008] The present invention will become more obvious from the following description when taken in connection with the accompanying drawings, which show, for purpose of illustrations only, the preferred embodiments in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIG. 1 is a perspective view of a fan diversion structure in accordance with a preferred embodiment of the present invention.

[0010] FIG. 2 is a front view of a fan diversion structure in accordance with a preferred embodiment of the present invention.

[0011] FIG. 3 is a perspective view of a fan diversion structure in accordance with another preferred embodiment of the present invention.

[0012] FIG. 4 is a part section side view of a fan diversion structure in accordance with another preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0013] FIG. 3 is a perspective view of a fan diversion structure in accordance with another preferred embodiment of the present invention.

[0014] FIG. 4 is a part section side view of a fan diversion structure in accordance with another preferred embodiment of the present invention.

[0015] Please refer to FIGS. 1 and 2. In a preferred embodiment of the present invention, the fan diversion structure is used in combination with a fan. The definition of the fan includes an upright fan and a ceiling fan. This embodiment is combined with an upright fan for the following structure description.

[0016] The fan diversion structure of this invention comprises at least one deflector 10 and at least one connecting part 20. More specifically, the quantity of the deflectors 10 is two, and the quantity of the connecting parts 20 is two as well.

[0017] The deflector 10, which is adapted to be disposed across front of an air outlet, is disposed on one side next to a center of the fan and without overlapping the center of the fan. Thereby, the deflector 10 avoids completely blocking an axial airflow from the fan, wherein the deflector 10 mainly extends aslant and outwardly so as to deflect the airflow to the side of the fan. Perfectly, the deflector 10 has a curved surface. The curved surface is used to facilitate the outward deflection of the airflow. In this embodiment, the deflectors 10 are symmetrically disposed to two sides of the center of the fan so as to allow the airflow to be extended evenly.

[0018] The connecting part 20 is used to connect the deflector 10 to the fan. In this embodiment, the connecting part 20 includes two fasten components 21. The fasten components 21 are respectively connected to the two sides of the deflector 10, and the fasten components 21 are used to be fastened on a net 10 of the fan. Thereby, users can disassemble or assemble the fan diversion structure by demand to correspond with the different environments. Furthermore, the fan diversion structure of this invention is adapted to be combined with homely upright fans or ceiling fans with the connecting part. Therefore, customers can spend little money on the fan diversion structure of this invention to extend the blowing angle of the fan.

[0019] Besides, please refer to the FIGS. 3 and 4. The fan diversion structure for a ceiling fan comprises at least one deflector 10. More specifically, the effect of the deflectors as shown in FIGS. 3 and 4 is better. Corresponding to a shape of a joint position with the fan, a connecting part 20 is formed on a distal end of the sectorial deflectors 10. The connecting part 20 shown in FIG. 4 is an embodiment of a hollow annular board corresponding to a circular structure beneath the ceiling fan, and the connecting part 20 is designed according to shapes of different joint locations with the ceiling fan. When the connecting part 20 is formed as the hollow annular board corresponding to the circular structure beneath the ceiling fan, the connecting part 20 is preferable to be combined with the deflector 10 which is opposite to the fan and can be adjusted with an angle range of 360°.

[0020] The above-mentioned deflectors 10 are connected to the ceiling fan with the connecting part 20. Thereby, the deflectors 10 can be disposed symmetrically to two sides of the ceiling fan. And the deflectors 10 further include two joint poles 22 extending from the connecting part 20 and at least one supporting pole 23. The joint poles 22 are respectively...
connected to two sides of the deflector and close to a center of the fan. A hollow portion 24 between an inner margin of the deflector 10 and the joint poles 22 can be opened by demand to allow an airflow to pass from the center of the fan (the airflow basically passes through spaces between the deflectors). The supporting pole 23 located between the joint poles 22 is connected to the inner margin of the deflector 10 and close to the center of the fan, wherein the supporting pole 23 maintains structure strength of the deflector and also prevents from severe sway by the wind.

[0021] The fan diversion structure of this invention can efficiently improve a restricted blowing angle range of conventional fans. Users can connect the fans with the deflector to extend the lateral blowing angle and meanwhile moderately keep an airflow in the axial direction. Thereby, the blowing angle is maximized by deflecting the minimized airflow in axial direction, and the users’ need is fulfilled.

What is claimed is:
1. A fan diversion structure, which is adapted to be disposed on a fan, comprising:
   at least one deflector, adapted to be disposed across front of an air outlet of the fan, the deflector being disposed on one side next to a center of the fan and without overlap
   ping the center, the deflector extending outwardly so as to deflect an airflow to the side thereof; and
   at least one connecting part, connecting the deflector to the fan;

   wherein the fan is a ceiling fan, the connecting part is a hollow annular board corresponding to a circular structure of the ceiling fan, the deflector further comprises two joint poles extending from the connecting part, and the joint poles are respectively connected to two sides of the deflector and near to the center of the fan.

2. The fan diversion structure of claim 1, wherein a hollow portion is defined between an inner margin of the deflector and the joint poles, the connecting part further comprises at least one supporting pole located between the joint poles, the supporting pole is connected to the inner margin of the deflector, and the supporting pole is close to the center of the fan.

3. The fan diversion structure of claim 1, wherein the deflector is sectorial.

4. The fan diversion structure of claim 1, wherein the quantity of deflectors is two, and each deflector is disposed symmetrically to two sides of the center of the fan.