

LAMP ASSEMBLY

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a lamp assembly, and in particular to a
5 lamp assembly having LED lamps.

2. Description of Related Art

Generally speaking, illuminating lamps play an essential role in human's
daily life. For example, a house, office and technology industry plant all need
a great amount of illumination. Especially, the advanced technology industry
10 needs 24-hour continuous illumination in order to correspond to the demand for
the productivity. Therefore, it consumes a great deal of energy. Further, the
intensity of the lamps is also essential to the technology industry. A common
method for increasing the intensity is to increase the watt number of each lamp.
However, with the decreasing amount of the energy sources in the earth and the
15 increasing price of the energy source, the above method will cause significant
increase in the consumed amount of electricity and thus the total cost.
Therefore, it is an inevitable tendency to change the type of the light-emitting
body of the lamp, the light-emitting efficiency and its life.

The lamp with related to the present invention is, for example, disclosed in
20 Taiwan Patent No.M260686 entitled "Lamp Assembly", in which the lamp
used in that patent document is a lamp tube. The light-emitting efficiency of

the lamp tube is so restricted. If someone intends to increase the intensity and reduce the consumption of the energy source, he has to use another type of lamp.

SUMMARY OF THE INVENTION

5 Therefore, the primary object of the present invention is to provide a lamp assembly capable of increasing the light-emitting efficiency and intensity and reducing the consumption of energy source.

In order to achieve the above objects, the present invention provides a lamp assembly installed on a T-bar steel frame in the ceiling, which comprises:

10 a lamp casing having a frame body and a cover body for sealing an upper periphery of the frame body; at least one support provided in the lamp casing and connected to the frame body; a plurality of LED lamps provided on the support; at least one intake formed on the frame body; and at least one vent formed on the cover body.

15 In order to further understand the characteristics and technical contents of the present invention, a detailed description relating to the present invention will be made with reference to the accompanying drawings. However, it should be understood that the drawings are illustrative only but not used to limit the scope of the present invention.

20 BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of the lamp assembly of a preferred embodiment of the present invention;

Fig. 2 is a cross-sectional view of the preferred embodiment of the present invention; and

5 Fig. 3 is a cross-sectional view showing that the preferred embodiment of the present invention is in an open state.

DETAILED DESCRIPTION OF THE INVENTION

As shown in Fig. 1 and Fig. 2, the preferred embodiment of the lamp assembly of the present invention is suitable to be used in a dust-free room and
10 is installed on the T-bar steel frame in the ceiling. The lamp assembly comprises a lamp casing 1, at least one support 2, a plurality of LED lamps 3, a lamp cover 4, a plurality of pivoting pieces 18, at least one intake 14 and at least one vent 13.

The lamp casing 1 has a frame body 12 and a cover body 11 for sealing
15 the upper periphery of the frame body 12. The frame body 12 has a first side plate 121, a second side plate 122 disposed apart from the first side plate 121, and two connecting plates 123 with both ends connected to the first side plate 121 and the second side plate 122, respectively. Both ends of the support 2 are fixed to the connecting plates 123, respectively. The LED lamps 3 are
20 fixed onto the bottom surface of the support 2 at identical intervals.

The cover body 11 has a first cover 111 and a second cover 112. The

first cover 111 is pivotably fixed to the upper periphery of the first side plate 121 via two pivoting pieces 18. The second cover 112 is pivotably fixed to the upper periphery of the second side plate 122 via another two pivoting pieces 18. The top faces of the first cover 111 and the second cover 112 are
5 provided with two adjacent handles 15, respectively. The intakes 14 are formed at intervals on the outer surfaces of the first side plate 121 and the second side plate 122, respectively. The vents 13 are formed at intervals on the first cover 111 and the second cover 112, respectively.

In the present embodiment, the lamp cover 4 is a diffusion plate for
10 sealing the lower periphery of the frame body 12. After the spot light source emitted by the LED lamp 3 enters the diffusion plate, it will be refracted, reflected and scattered. After the optical diffusion, the spot light source is converted into a uniform area light source. Between the lamp cover 4 and the frame body 12, a dust-proof and waterproof level (IP) of sealing is provided,
15 thereby to prevent the invasion of the foreign matters and moistures.

The intakes 14 allow the air to flow into the interior of the lamp casing 1. The air carries away the heat and exit through the vent 13. The intakes 14 are provided with a corresponding number of fences 16 for preventing the invasion of the foreign matters. The vents 13 are provided with a corresponding
20 number of fans 17. When the air flows through the vents, it makes the fans to rotate.

As shown in Fig. 3, when the lamp assembly is to be repaired, the repairman grips the handle 15 by his hand and lifts the first cover 111 and the second cover 112 in two opposite directions. As a result, the lamp assembly is in an open state and thus the repairman is easy to perform the repair.

5 With the provision of the LED lamps 3, the lamp assembly of the present invention can substantially increase the light-emitting efficiency and intensity and reduce the consumption of energy source.

Although the present invention has been described with reference to the foregoing preferred embodiments, it will be understood that the invention is not
10 limited to the details thereof. Various equivalent variations and modifications can still be occurred to those skilled in this art in view of the teachings of the present invention. Thus, all such variations and equivalent modifications are also embraced within the scope of the invention as defined in the appended claims.

WHAT IS CLAIMED IS:

1. A lamp assembly installed on a T-bar steel frame in the ceiling,
comprising:
a lamp casing having a frame body and a cover body for
5 sealing an upper periphery of the frame body;
at least one support provided in the lamp casing and
connected to the frame body;
a plurality of LED lamps provided on the support;
at least one intake formed on the frame body; and
10 at least one vent formed on the cover body.
2. The lamp assembly according to claim 1, wherein the frame body has a
first side plate, a second side plate provided apart from the first side plate, and
two connecting plates with both ends connected respectively to the first side
plate and the second side plate, both ends of the support are connected
15 respectively to the two connecting plates, and the LED lamps are provided on a
bottom surface of the support.
3. The lamp assembly according to claim 1, wherein the cover body has a
first cover and a second cover rotatably fixed to the frame body, and the first
cover has a handle on a top surface thereof and the second cover also has a
20 handle on a top surface thereof.
4. The lamp assembly according to claim 1, further comprising a lamp

cover for sealing a lower periphery of the frame body.

5. The lamp assembly according to claim 4, wherein the lamp cover is a diffusion plate.

6. The lamp assembly according to claim 4, wherein the lamp cover and
5 the frame body provides a dust-proof and waterproof level (IP) of sealing therebetween.

7. The lamp assembly according to claim 1, wherein the intake is provided with a fence.

8. The lamp assembly according to claim 1, wherein the vent is provided
10 with a fan.