HEAT DISSIPATER WITH AXIAL AND RADIAL AIR APERTURES AND APPLICATION DEVICE THEREOF

BACKGROUND OF THE INVENTION

(a) Field of the Invention

The present invention provides an electric luminous body having a heat dissipater with axial and radial air apertures for meeting the heat dissipation requirement of an electric illumination device, e.g. utilizing a light emitting diode (LED) as an electric luminous body, so the heat generated by the electric illumination device cannot only be dissipated to the exterior through the surface of the heat dissipater, but also enabled to be further dissipated by the air flowing capable of assisting heat dissipation through the hot airflow in a heat dissipater with axial and radial air apertures (101) generating a hot ascent/cold descent effect for introducing airflow from an air inlet port formed near a light projection side to pass an axial tubular flowpath (102) then be discharged from a radial air outlet hole (107) formed near a connection side (104) of the heat dissipater with axial and radial air apertures (101).

(b) Description of the Prior Art

A conventional heat dissipation device used in an electric luminous body of an electric illumination device, e.g. a heat dissipater of a LED illumination device, generally transmits heat generated by the LED to the heat dissipater for discharging the heat to the exterior through the surface of the heat dissipater, and said conventional heat dissipater is not equipped with functions of utilizing the airflow introduced from an air inlet port to pass an inner heat dissipation surface formed by an axial hole then discharged by a radial air outlet for the purpose of increasing the effect of externally dissipating heat from the interior of the heat dissipater. Documents US 2010/0264800, EP 2287527 and WO2011/044274 disclose such a heat dissipation device. The present invention is provided with an improved heat dissipater with axial and

radial air apertures (101) in which an axial tubular flowpath (102) is formed for structuring an axial hole, so heat generated by an electric luminous body installed at a light projection side (103) of the heat dissipater with axial and radial air apertures (101) cannot only be dissipated to the exterior through the surface of the heat dissipater, but also enabled to be further dissipated by the air flowing capable of assisting the heat being dissipated from the interior of the heat dissipater to the exterior through the hot airflow in the heat dissipater with axial and radial air apertures (101) generating a hot ascent/cold descent effect for introducing airflow from ~~an~~a plurality of air inlet ports of the axial hole structured by the axial tubular flowpath (102) and formed near a light projection side then be discharged from a radial air outlet hole (107) formed near a connection side (104) of the heat dissipater with axial and radial air apertures (101).

SUMMARY OF THE INVENTION

A conventional heat dissipation device used in an electric luminous body of an electric illumination device, e.g. a heat dissipater of a LED illumination device, generally transmits heat generated by the LED to the heat dissipater for discharging the heat to the exterior through the surface of the heat dissipater, and said conventional heat dissipater is not equipped with functions of utilizing the airflow introduced from an air inlet port to pass an inner heat dissipation surface formed by an axial hole then discharged by a radial air outlet for the purpose of increasing the effect of externally dissipating heat from the interior of the heat dissipater. The present invention provides an electric luminous body having a heat dissipater with axial and radial air apertures for meeting the heat dissipation requirement of an electric illumination device, e.g. utilizing a light emitting diode (LED) as an electric luminous body, the interior of the heat dissipater with axial and radial air apertures (101) is formed with an axial tubular flowpath (102) for structuring

an axial hole, so heat generated by an electric luminous body installed at a light projection side (103) of the heat dissipater with axial and radial air apertures (101) cannot only be dissipated to the exterior through the surface of the heat dissipater, but also enabled to be further dissipated by ~~the air flowing capable of assisting the heat being dissipated from the interior of the heat dissipater to the exterior through~~ the hot airflow inside the heat dissipater with axial and radial air apertures (101) by generating a hot ascent/cold descent effect for introducing airflow from an air inlet port of the axial hole structured by the axial tubular flowpath (102) and formed near a light projection side then be discharged from a radial air outlet hole (107) formed near a connection side (104) of the heat dissipater with axial and radial air apertures (101), thereby assisting the hot airflow inside the heat dissipater with axial and radial air apertures (101) to be dissipated to the exterior.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a schematic view showing the basic structure and operation of the present invention.

FIG. 2 is a cross sectional view of FIG. 1 taken from A-A cross section.

FIG. 3 is a schematic structural view illustrating an electric luminous body being installed at the center of the end surface of a light projection side of the heat dissipater with axial and radial air apertures (101), and a radial air inlet port (108) being formed near the outer periphery of the light projection side, according to one embodiment of the present invention;

FIG. 4 is a top view of FIG. 3.

FIG. 5 is a schematic structural view illustrating the electric luminous body being installed at the center of the end surface of the light projection side of the heat dissipater with axial and radial air apertures (101), and the light projection side being formed with an air inlet port annularly arranged near the periphery of axial end surface (110), according to one

CLAIMS:

1. An electric luminous body having a heat dissipater with axial and radial air apertures, in which the heat generated by the electric illumination device cannot only be dissipated to the exterior through the surface of the heat dissipater, but also enabled to be further dissipated by the air flowing capable of assisting heat dissipation through the hot airflow in a heat dissipater with axial and radial air apertures (101) generating a hot ascent/cold descent effect for introducing airflow from an air inlet port formed near a light projection side to pass an axial tubular flowpath (102) then be discharged from a radial air outlet hole (107) formed near a connection side (104) of the heat dissipater with axial and radial air apertures (101), wherein it mainly consists of:

--heat dissipater with axial and radial air apertures (101): made of a material having good heat conductivity and formed as an integral or assembled hollow member, the outer radial surface is formed as a smooth surface, rib surface, grid surface, porous, net-shaped or fin-shaped structure, thereby forming an external heat dissipation surface (105); the radial interior is formed as a smooth surface, rib surface, grid surface, porous, net-shaped or fin-shaped structure, thereby forming an internal heat dissipation surface (106); the center is provided with an axial tubular flowpath (102) to constitute an axial hole allowing airflow to pass, and one axial side of the heat dissipater with axial and radial air apertures (101) is defined as a light projection side (103) allowing an electric luminous body to be installed thereon, and the other axial side is formed in a sealed or semi-sealed or opened structure for serving as a connection side (104) to be served as the external connecting structure;

--one end of the heat dissipater with axial and radial air apertures (101) near the connection side (104) is installed with one or more than one radial air outlet holes (107), and the light projection side (103) is installed

with one or more than one air inlet ports, said air inlet ports are installed to at least one or more than one of three locations which include the outer periphery being installed with a radial air inlet port (108), ~~and/or~~ the center of axial end surface of the light projection side (103) being installed with a central axial air inlet port (109), and~~/or~~ the light projection side (103) being installed with an air inlet port annularly arranged near the periphery of axial end surface (110);

With the mentioned structure when generating heat loss during the electric luminous body being electrically conducted for emitting light, the air flowing formed through the hot airflow in the heat dissipater with axial and radial air apertures (101) generating a hot ascent/cold descent effect for introducing airflow from the air inlet port formed near the light projection side to pass the axial hole configured by the axial tubular flowpath (102) then be discharged from the radial air outlet hole (107) formed near the connection side (104) of the heat dissipater with axial and radial air apertures (101), thereby discharging thermal energy in the axial tubular flowpath (102) to the exterior.

2. An electric luminous body having the heat dissipater with axial and radial air apertures as claimed in claim 1, ~~wherein an electric luminous body is installed at the center of the end surface of a light projection side of the heat dissipater with axial and radial air apertures (101), and a radial air inlet port (108) is formed near the outer periphery of the light projection side, and it mainly consists of~~further comprising:

~~--heat dissipater with axial and radial air apertures (101): made of a material having good heat conductivity and formed as an integral or assembled hollow member, the outer radial surface is formed as a smooth surface, rib surface, grid surface, porous, net shaped or fin shaped structure, thereby forming an external heat dissipation surface (105); the~~

~~radial interior is formed as a smooth surface, rib surface, grid surface, porous, net shaped or fin shaped structure, thereby forming an internal heat dissipation surface (106); the center is provided with an axial tubular flowpath (102) to constitute an axial hole allowing airflow to pass, and one axial side of the heat dissipater with axial and radial air apertures (101) is defined as a light projection side (103) allowing an electric luminous body to be installed thereon, and the other axial side is formed in a sealed or semi sealed or opened structure for serving as a connection side (104) to be served as the external connecting structure;~~

~~—one end of the heat dissipater with axial and radial air aperture (101) near the connection side (104) is installed with one or more than one radial air outlet holes (107), and said radial air outlet hole (107) includes grid holes configured by a hole shaped or net shaped structure;~~

~~—radial air inlet port (108): constituted by one or more than one radial air inlet ports (108) installed near the outer periphery of the light projection side (103) of the heat dissipater with axial and radial air aperture (101), and said radial air inlet port (108) includes grid holes configured by a hole shaped or net shaped structure;~~

~~With the mentioned structure when generating heat loss during the electric luminous body being electrically conducted for emitting light, the air flowing formed through the hot airflow in the heat dissipater with axial and radial air aperture (101) generating a hot ascent/cold descent effect for introducing airflow from one or more than one radial air inlet ports (108) of the light projection side (103) to pass the axial hole configured by the axial tubular flowpath (102) then be discharged from the radial air outlet hole (107) formed near the connection side (104) of the heat dissipater with axial and radial air aperture (101), thereby discharging thermal energy in the axial tubular flowpath (102) to the exterior;~~

--electric luminous body: constituted by one or more than one devices capable of being inputted with electric power for generating optical power, e.g. a LED (111) or LED module, installed at the center of the light projection side (103) of the heat dissipater with axial and radial air apertures (101) for projecting light to the exterior according to a set direction;

--secondary optical device (112): optionally installed, provided with functions of condensing, diffusing, refracting or reflecting the optical energy of the LED (111) for projecting light to the exterior;

--light-pervious lampshade (113): made of a light-pervious material, covering the LED (111) for the purpose of protecting the LED (111), and allowing the optical energy of LED (111) passing through for projecting to the exterior;

--axially-fixed and electric-conductive interface (114): one end thereof is connected to the connection side (104) of the heat dissipater with axial and radial air apertures (101), the other end is a screw-in type, insertion type or lock-on type lamp head or lamp holder structure, or an electric conductive interface structure configured by an electric conductive terminal structure, provided as a connection interface for the electric luminous body and an axial external electric power, and connected to the electric luminous body with an electric conductive member for transmitting electric power.

~~3. An electric luminous body having heat dissipater with axial and radial air aperture as claimed in claim 1, wherein the electric luminous body is installed at the center of the end surface of the light projection side of the heat dissipater with axial and radial air apertures (101), and the light projection side is formed with an air inlet port annularly arranged near the periphery of axial end surface (110); it mainly consists of:~~

~~- heat dissipater with axial and radial air apertures (101): made of a material having good heat conductivity and formed as an integral or assembled hollow member, the outer radial surface is formed as a smooth surface, rib surface, grid surface, porous, net-shaped or fin-shaped structure, thereby forming an external heat dissipation surface (105); the radial interior is formed as a smooth surface, rib surface, grid surface, porous, net-shaped or fin-shaped structure, thereby forming an internal heat dissipation surface (106); the center is provided with an axial tubular flowpath (102) to constitute an axial hole allowing airflow to pass, and one axial side of the heat dissipater with axial and radial air apertures (101) is defined as a light projection side (103) allowing an electric luminous body to be installed thereon, and the other axial side is formed in a sealed or semi-sealed or opened structure for serving as a connection side (104) to be served as the external connecting structure;~~

~~- one end of the heat dissipater with axial and radial air aperture (101) near the connection side (104) is installed with one or more than one radial air outlet holes (107), and said radial air outlet hole (107) includes grid holes configured by a hole-shaped or net-shaped structure;~~

~~- air inlet port annularly arranged near the periphery of axial end surface (110): constituted by one or more than one air inlet port structures annularly installed near the periphery of axial end surface of the light projection side (103) of the heat dissipater with axial and radial air aperture (101) for communicating to the axial tubular flowpath (102), and said air inlet port annularly arranged near the periphery of axial end surface (110) includes grid holes configured by a hole-shaped or net-shaped structure;~~

~~With the mentioned structure when generating heat loss during the electric luminous body being electrically conducted for emitting light, the hot airflow in the heat dissipater with axial and radial air aperture (101)~~

~~generating a hot ascent/cold descent effect for introducing airflow from one or more than one air inlet ports annularly arranged near the periphery of axial end surface (110) at the light projection side (103) to pass the axial hole configured by the axial tubular flowpath (102) then be discharged from the radial air outlet hole (107) formed near the connection side (104) of the heat dissipater with axial and radial air aperture (101), thereby discharging thermal energy in the axial tubular flowpath (102) to the exterior;~~

~~--electric luminous body: constituted by one or more than one devices capable of being inputted with electric power for generating optical power, e.g. a LED (111) or LED module, installed at the center of the light projection side (103) of the heat dissipater with axial and radial air apertures (101) for projecting light to the exterior according to a set direction;~~

~~--secondary optical device (112): optionally installed, provided with functions of condensing, diffusing, refracting or reflecting the optical energy of the LED (111) for projecting light to the exterior;~~

~~--light pervious lampshade (113): made of a light pervious material, covering the LED (111) for the purpose of protecting the LED (111), and allowing the optical energy of LED (111) passing through for projecting to the exterior;~~

~~--axially fixed and electric conductive interface (114): one end thereof is connected to the connection side (104) of the heat dissipater with axial and radial air aperture (101), the other end is a screw in type, insertion type or lock on type lamp head or lamp holder structure, or an electric conductive interface structure configured by an electric conductive terminal structure, provided as a connection interface for the electric luminous body and an axial external electric power, and connected to the electric luminous body with an electric conductive member for~~

~~transmitting electric power.~~

34. An electric luminous body having the heat dissipater with axial and radial air apertures as claimed in claim 1, wherein ~~the electric luminous body is downwardly projecting light and is annularly installed at the light projection side of the heat dissipater with axial and radial air apertures (101), and is formed with a central axial air inlet port (109); it mainly consists of:~~

~~--heat dissipater with axial and radial air apertures (101): made of a material having good heat conductivity and formed as an integral or assembled hollow member, the outer radial surface is formed as a smooth surface, rib surface, grid surface, porous, net-shaped or fin-shaped structure, thereby forming an external heat dissipation surface (105); the radial interior is formed as a smooth surface, rib surface, grid surface, porous, net-shaped or fin-shaped structure, thereby forming an internal heat dissipation surface (106); the center is provided with an axial tubular flowpath (102) to constitute an axial hole allowing airflow to pass, and one axial side of the heat dissipater with axial and radial air apertures (101) is defined as a light projection side (103) allowing an electric luminous body to be installed thereon, and the other axial side is formed in a sealed or semi-sealed or opened structure for serving as a connection side (104) to be served as the external connecting structure;~~

~~--one end of the heat dissipater with axial and radial air aperture (101) near the connection side (104) is installed with one or more than one radial air outlet holes (107), and said radial air outlet hole (107) includes grid holes configured by a hole-shaped or net-shaped structure;~~

--central axial air inlet port (109): constituted by a central axial air inlet port structure installed on the axial end surface of the light projection side (103) of the heat dissipater with axial and radial air apertures (101) for

communicating to the axial tubular flowpath (102), and said central axial air inlet port (109) includes grid holes configured by a hole-shaped or net-shaped structure;

With the mentioned structure when generating heat loss during the electric luminous body being electrically conducted for emitting light, the air flowing formed through the hot airflow in the heat dissipater with axial and radial air aperture (101) generating a hot ascent/cold descent effect for introducing airflow from the central axial air inlet port (109) of the light projection side (103) to pass the axial hole configured by the axial tubular flowpath (102) then be discharged from the radial air outlet hole (107) formed near the connection side (104) of the heat dissipater with axial and radial air aperture (101), thereby discharging thermal energy in the axial tubular flowpath (102) to the exterior;

--electric luminous body: constituted by one or more than one devices capable of being inputted with electric power for generating optical power, e.g. a LED (111) or LED module, installed at the inner periphery of the light projection side (103) of the heat dissipater with axial and radial air apertures (101), downwardly disposed and projecting light to the exterior according to a set direction.

--secondary optical device (112): optionally installed, provided with functions of condensing, diffusing, refracting or reflecting the optical energy of the LED (111) for projecting light to the exterior;

--light pervious lampshade (113): made of a light pervious material, covering the LED (111) for the purpose of protecting the LED (111), and allowing the optical energy of LED (111) passing through for projecting to the exterior;

--axially fixed and electric conductive interface (114): one end thereof is connected to the connection side (104) of the heat dissipater with axial and radial air aperture (101), the other end is a screw-in type, insertion

~~type or lock on type lamp head or lamp holder structure, or an electric conductive interface structure configured by an electric conductive terminal structure, provided as a connection interface for the electric luminous body and an axial external electric power, and connected to the electric luminous body with an electric conductive member for transmitting electric power~~.

~~45~~.An electric luminous body having the heat dissipater with axial and radial air aperture as claimed in claim 1, wherein the electric luminous body is downwardly projecting light in a multiple circular manner and is annularly installed at the light projection side of the heat dissipater with axial and radial air apertures (101), and wherein the~~is formed with an air inlet port annularly arranged near the periphery of axial end surface (110) and formed with a central axial air inlet port (109) at the periphery of the light projection side or between the electric luminous body downwardly projecting light in a multiple circular manner and annularly installed; it mainly consists of:~~

~~--heat dissipater with axial and radial air apertures (101): made of a material having good heat conductivity and formed as an integral or assembled hollow member, the outer radial surface is formed as a smooth surface, rib surface, grid surface, porous, net shaped or fin shaped structure, thereby forming an external heat dissipation surface (105); the radial interior is formed as a smooth surface, rib surface, grid surface, porous, net shaped or fin shaped structure, thereby forming an internal heat dissipation surface (106); the center is provided with an axial tubular flowpath (102) to constitute an axial hole allowing airflow to pass, and one axial side of the heat dissipater with axial and radial air apertures (101) is defined as a light projection side (103) allowing an electric luminous body to be installed thereon, and the other axial side is formed~~

~~in a sealed or semi-sealed or opened structure for serving as a connection side (104) to be served as the external connecting structure;~~

~~--one end of the heat dissipater with axial and radial air aperture (101) near the connection side (104) is installed with one or more than one radial air outlet holes (107), and said radial air outlet hole (107) includes grid holes configured by a hole-shaped or net-shaped structure;~~

~~--central axial air inlet port (109): constituted by a central axial air inlet port structure installed on the axial end surface of the light projection side (103) of the heat dissipater with axial and radial air aperture (101) for communicating to the axial tubular flowpath (102), and said central axial air inlet port (109) includes grid holes configured by a hole-shaped or net-shaped structure;~~

-- air inlet port annularly arranged near the periphery of axial end surface (110): constituted by one or more than one air inlet port structures annularly installed near the periphery of axial end surface of the light projection side (103) of the heat dissipater with axial and radial air apertures (101) or between the LED (111) downwardly projecting light in a multiple circular manner and annularly installed for communicating to the axial tubular flowpath (102), and said air inlet port annularly arranged near the periphery of axial end surface (110) includes grid holes configured by a hole-shaped or net-shaped structure~~;~~

~~With the mentioned structure when generating heat loss during the electric luminous body being electrically conducted for emitting light, the air flowing formed through the hot airflow in the heat dissipater with axial and radial air aperture (101) generating a hot ascent/cold descent effect for introducing airflow from the central axial air inlet port (109) and the air inlet port annularly arranged near the periphery of axial end surface (110) of the light projection side (103) to pass the axial hole structured by the axial tubular flowpath (102) then be discharged from the~~

~~radial air outlet hole (107) formed near the connection side (104) of the heat dissipater with axial and radial air aperture (101), thereby discharging thermal energy in the axial tubular flowpath (102) to the exterior;~~

~~--electric luminous body: constituted by a plurality of devices capable of being inputted with electric power for generating optical power, e.g. a LED (111) or LED module, installed at the inner periphery of the light projection side (103) of the heat dissipater with axial and radial air apertures (101), downwardly disposed in a multiple circular manner, and projecting light to the exterior according to a set direction;~~

~~--secondary optical device (112): optionally installed, provided with functions of condensing, diffusing, refracting or reflecting the optical energy of the LED (111) for projecting light to the exterior;~~

~~--light pervious lampshade (113): made of a light pervious material, covering the LED (111) for the purpose of protecting the LED (111), and allowing the optical energy of LED (111) passing through for projecting to the exterior;~~

~~--axially fixed and electric conductive interface (114): one end thereof is connected to the connection side (104) of the heat dissipater with axial and radial air aperture (101), the other end is a screw in type, insertion type or lock on type lamp head or lamp holder structure, or an electric conductive interface structure configured by an electric conductive terminal structure, provided as a connection interface for the electric luminous body and an axial external electric power, and connected to the electric luminous body with an electric conductive member for transmitting electric power~~.

5~~6~~. An electric luminous body having the heat dissipater with axial and radial air apertures as claimed in claim 2, wherein a radially-fixed and electric

conductive interface (115) is used for replacing the axially-fixed and electric-conductive interface (114), and a top cover member (116) is further installed; wherein

--radially-fixed and electric-conductive interface (115): one end thereof is connected to the connection side (104) of the heat dissipater with axial and radial air apertures (101), the other end is a screw-in type, insertion type or lock-on type lamp head or lamp holder structure, or an electric conductive interface structure configured by an electric conductive terminal structure, provided as a connection interface for the electric luminous body and a radial external electric power, and connected to the electric luminous body with an electric conductive member for transmitting electric power;

--top cover member (116): made of a thermal conductive or non thermal conductive material, connected at the connection side (104) of the heat dissipater with axial and radial air apertures (101) for guiding the shape of the airflow at the inner top space of the heat dissipater with axial and radial air apertures (101) to be radially diffused, or providing functions of optical reflecting or refracting or condensing or diffusing; when being made of a non thermal conductive material, the top cover member (116) further provides with a function of insulating or reducing the heat transmission between the inner top space of the heat dissipater with axial and radial air apertures (101) and the exterior; when being made of a thermal conductive material, the top cover member (116) further provides a function of assisting the airflow having relatively higher temperature inside the heat dissipater with axial and radial air apertures (101) to be dissipated to the exterior.

67. An electric luminous body having the heat dissipater with axial and radial air apertures as claimed in claim 3, wherein a radially-fixed and electric

conductive interface (115) is used for replacing the axially-fixed and electric-conductive interface (114), and a top cover member (116) is further installed; wherein

--radially-fixed and electric-conductive interface (115): one end thereof is connected to the connection side (104) of the heat dissipater with axial and radial air apertures (101), the other end is a screw-in type, insertion type or lock-on type lamp head or lamp holder structure, or an electric conductive interface structure configured by an electric conductive terminal structure, provided as a connection interface for the electric luminous body and a radial external electric power, and connected to the electric luminous body with an electric conductive member for transmitting electric power;

--top cover member (116): made of a thermal conductive or non thermal conductive material, connected at the connection side (104) of the heat dissipater with axial and radial air apertures (101) for guiding the shape of the airflow at the inner top space of the heat dissipater with axial and radial air apertures (101) to be radially diffused, or providing functions of optical reflecting or refracting or condensing or diffusing; when being made of a non thermal conductive material, the top cover member (116) further provides with a function of insulating or reducing the heat transmission between the inner top space of the heat dissipater with axial and radial air apertures (101) and the exterior; when being made of a thermal conductive material, the top cover member (116) further provides a function of assisting the airflow having relatively higher temperature inside the heat dissipater with axial and radial air apertures (101) to be dissipated to the exterior.

7~~8~~. An electric luminous body having the heat dissipater with axial and radial air apertures as claimed in claim 4, wherein a radially-fixed and electric

conductive interface (115) is used for replacing the axially-fixed and electric-conductive interface (114), and a top cover member (116) is further installed; wherein

--radially-fixed and electric-conductive interface (115): one end thereof is connected to the connection side (104) of the heat dissipater with axial and radial air apertures (101), the other end is a screw-in type, insertion type or lock-on type lamp head or lamp holder structure, or an electric conductive interface structure configured by an electric conductive terminal structure, provided as a connection interface for the electric luminous body and a radial external electric power, and connected to the electric luminous body with an electric conductive member for transmitting electric power;

--top cover member (116): made of a thermal conductive or non thermal conductive material, connected at the connection side (104) of the heat dissipater with axial and radial air apertures (101) for guiding the shape of the airflow at the inner top space of the heat dissipater with axial and radial air apertures (101) to be radially diffused, or providing functions of optical reflecting or refracting or condensing or diffusing; when being made of a non thermal conductive material, the top cover member (116) further provides with a function of insulating or reducing the heat transmission between the inner top space of the heat dissipater with axial and radial air apertures (101) and the exterior; when being made of a thermal conductive material, the top cover member (116) further provides a function of assisting the airflow having relatively higher temperature inside the heat dissipater with axial and radial air apertures (101) to be dissipated to the exterior.

8~~9~~. An electric luminous body having the heat dissipater with axial and radial air apertures as claimed in claim 5, wherein a radially-fixed and electric

conductive interface (115) is used for replacing the axially-fixed and electric-conductive interface (114), and a top cover member (116) is further installed; wherein

--radially-fixed and electric-conductive interface (115): one end thereof is connected to the connection side (104) of the heat dissipater with axial and radial air aperture (101), the other end is a screw-in type, insertion type or lock-on type lamp head or lamp holder structure, or an electric conductive interface structure configured by an electric conductive terminal structure, provided as a connection interface for the electric luminous body and a radial external electric power, and connected to the electric luminous body with an electric conductive member for transmitting electric power;

--top cover member (116): made of a thermal conductive or non thermal conductive material, connected at the connection side (104) of the heat dissipater with axial and radial air apertures (101) for guiding the shape of the airflow at the inner top space of the heat dissipater with axial and radial air apertures (101) to be radially diffused, or providing functions of optical reflecting or refracting or condensing or diffusing; when being made of a non thermal conductive material, the top cover member (116) further provides with a function of insulating or reducing the heat transmission between the inner top space of the heat dissipater with axial and radial air apertures (101) and the exterior; when being made of a thermal conductive material, the top cover member (116) further provides a function of assisting the airflow having relatively higher temperature inside the heat dissipater with axial and radial air apertures (101) to be dissipated to the exterior.

~~10.An electric luminous body having heat dissipater with axial and radial air aperture as claimed in claim 1, wherein in further practical applications,~~

~~the air inlet ports can be installed at plural locations, wherein:~~

~~one end of the heat dissipater with axial and radial air aperture (101) near the connection side (104) is installed with one or more than one radial air outlet holes (107), and the light projection side (103) is installed with air inlet ports, said air inlet ports are installed to at least one or more than one of three locations which include the outer periphery being installed with a radial air inlet port (108) and/or the center of axial end surface of the light projection side (103) being installed with a central axial air inlet port (109) and/or the light projection side (103) being installed with an air inlet port annularly arranged near the periphery of axial end surface (110).~~

9~~11~~. An electric luminous body having the heat dissipater with axial and radial air apertures as claimed in claim 1, wherein both or at least one of the interior and the exterior of the axial cross section of the axial tubular flowpath (102) can be provided with a heat dissipation fin structure (200) for increasing the heat dissipation effect; the main configuration is that the heat dissipater with axial and radial air apertures (101) is made of a material having good thermal conductivity, and between the radial air outlet hole near the connection side (104) and the air inlet port near the light projection side (103), the axial tubular flowpath (102) is served as a communicated tubular flowpath, wherein the B-B cross section of the tubular flowpath is formed with the heat dissipation fin structure (200).

10~~12~~. An electric luminous body having the heat dissipater with axial and radial air apertures as claimed in claim 1, wherein the heat dissipater with axial and radial air apertures (101) can be further formed as a net-shaped structure made of a thermal conductive material, and the net holes of the net-shaped structure can be used for replacing the radial air outlet hole (107) and the radial air inlet port (108); and the light projection side (103)

is formed with a block-shaped heat conductive structure allowing the electric luminous body to be installed thereon.

1113. An electric luminous body having the heat dissipater with axial and radial air apertures as claimed in claim 1, wherein the inner top of the heat dissipater with axial and radial air apertures (101) is formed with a flow guide conical member (301) at the axial direction facing the light projection side (103); or formed with a flow guide conical member (302) along the axial direction facing the light projection side (103) of the heat dissipater with axial and radial air apertures (101) at the side of the axially-fixed and electric-conductive interface (114) for connecting to the heat dissipater with axial and radial air apertures (101); the directions of said flow guide conical members (301), (302) facing the light projection side (103) of the heat dissipater with axial and radial air apertures (101) are formed in a conical shape for guiding the hot-ascended airflow in the axial tubular flowpath (102) to the radial air outlet hole (107).

1214. An electric luminous body having the heat dissipater with axial and radial air apertures as claimed in claim 1, wherein the interior of the axial tubular flowpath (102) can be installed with an electric motor driven fan (400) for assisting the flowing of the hot airflow in the axial tubular flowpath (102) for increasing the heat dissipation effect.

13. An electric luminous body having the heat dissipater with axial and radial apertures as claimed in any one of the preceding claims, wherein the radial air outlet holes (107) and the radial inlet ports (108) include grid holes configured by a hole-shaped or net-shaped structure.