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(54) **SINGLE COLOR OR MULTIPLE COLOR LED ANGEL EYES HALO HEADLIGHT**

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(52) **U.S. Cl.**
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(57) **ABSTRACT**

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Prior Publication Data

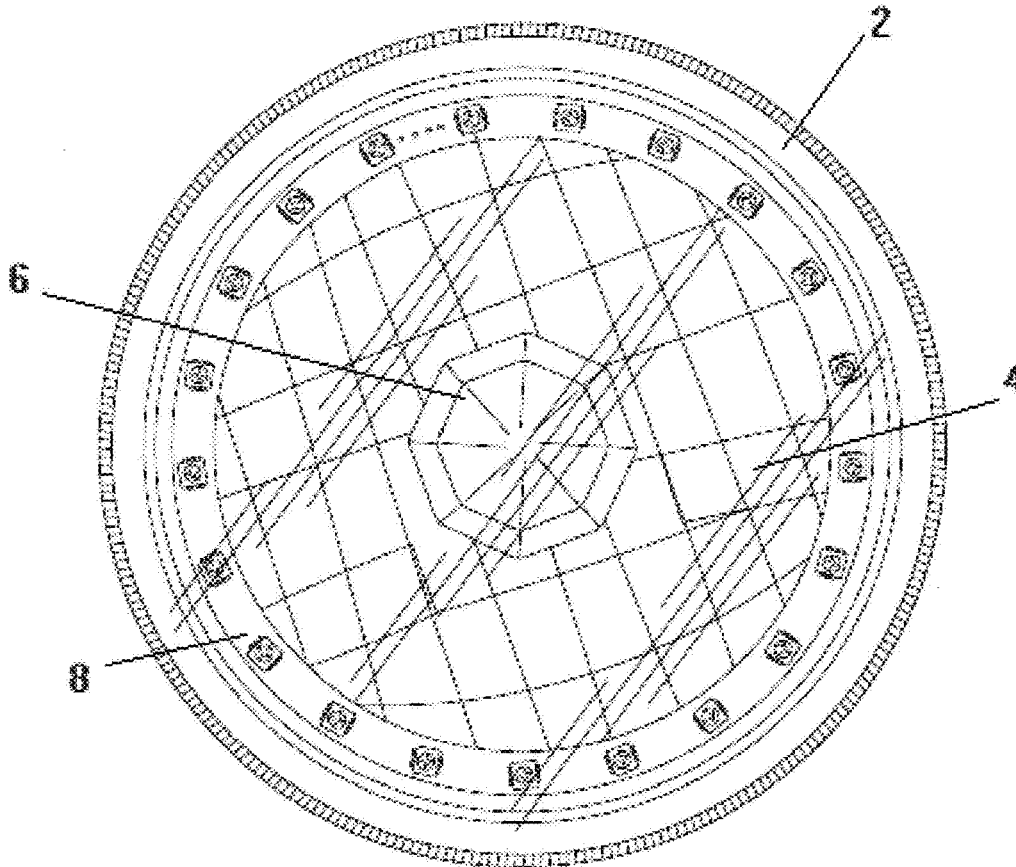
(15) Correction of US 2014/0078766 A1 Mar. 20, 2014
See (60) Related U.S. Application Data.

(65) US 2014/0078766 A1 Mar. 20, 2014

Related U.S. Application Data

(60) Provisional application No. 61/539,304, filed on Sep. 26, 2011.

A lamp that has a housing with a base containing a main lighting device lamp with an internal circumferential wall arrange with a visible ring of Printed Circuit Board (PCB) with Surface Mounted Device (SMD) Light Emitting Diode (LED or LED's) characteristic of a halo of more than one visible Single color or Multiple color LED's arranged symmetrically with light illumination facing forward and outward from the headlight and controlled by a user with a wireless signal transmitting device sending signals to a wireless receiving device to control the headlights LED color shade, intensity and pattern.



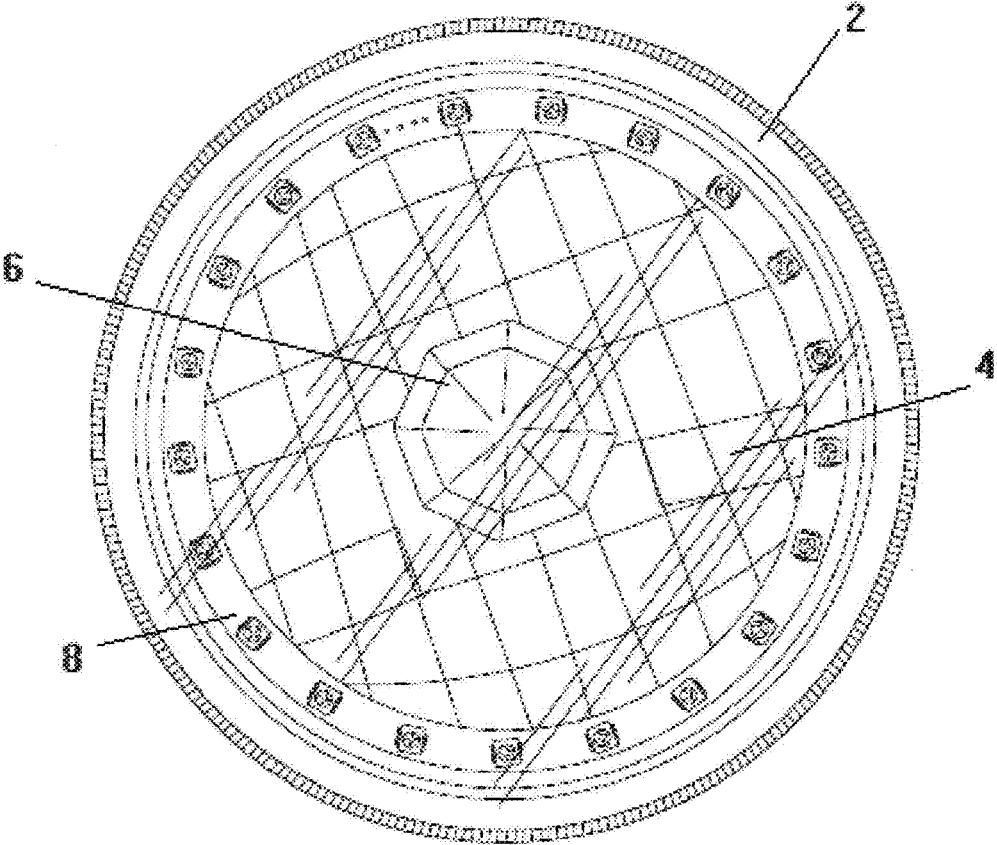
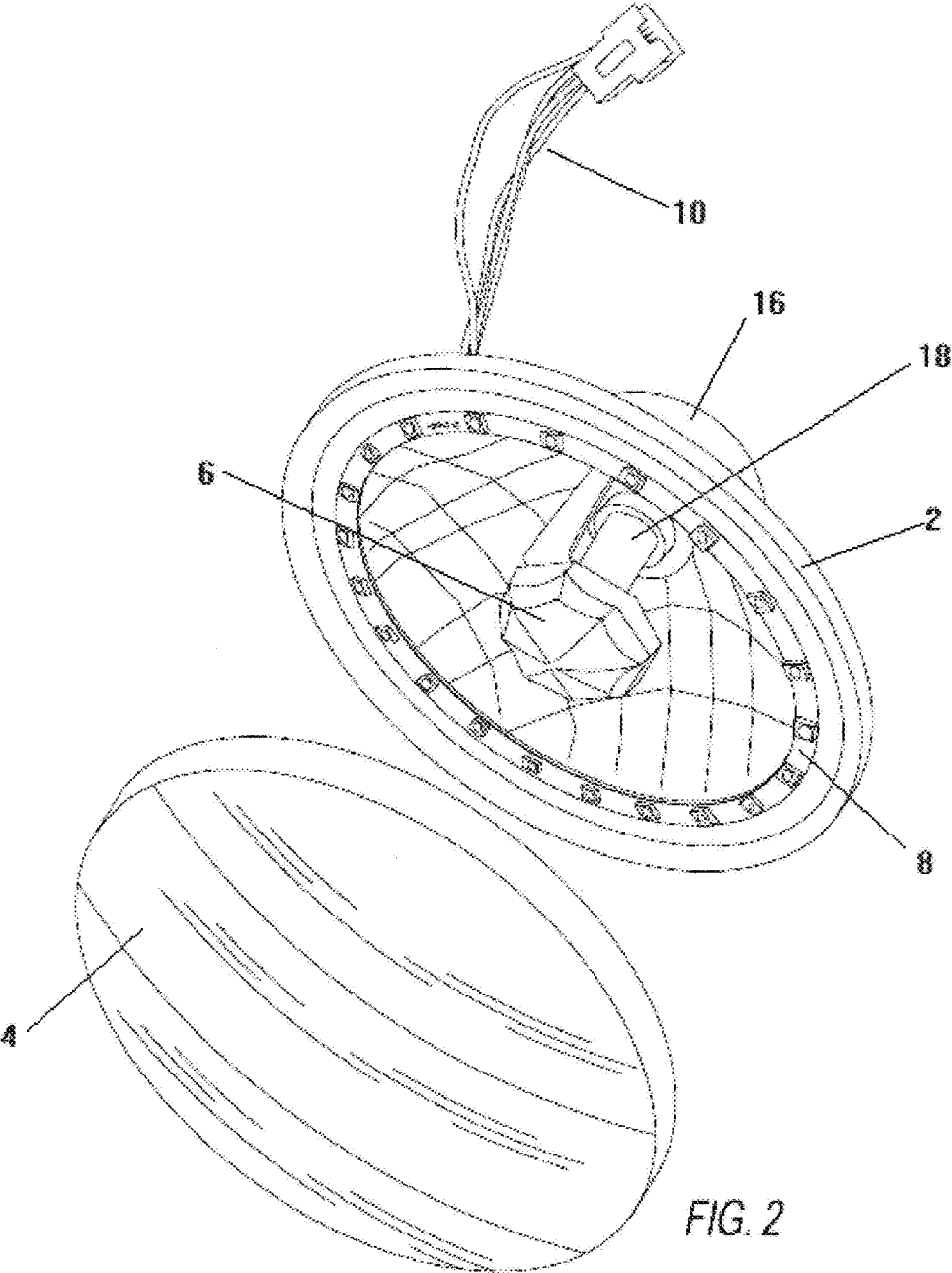


FIG. 1



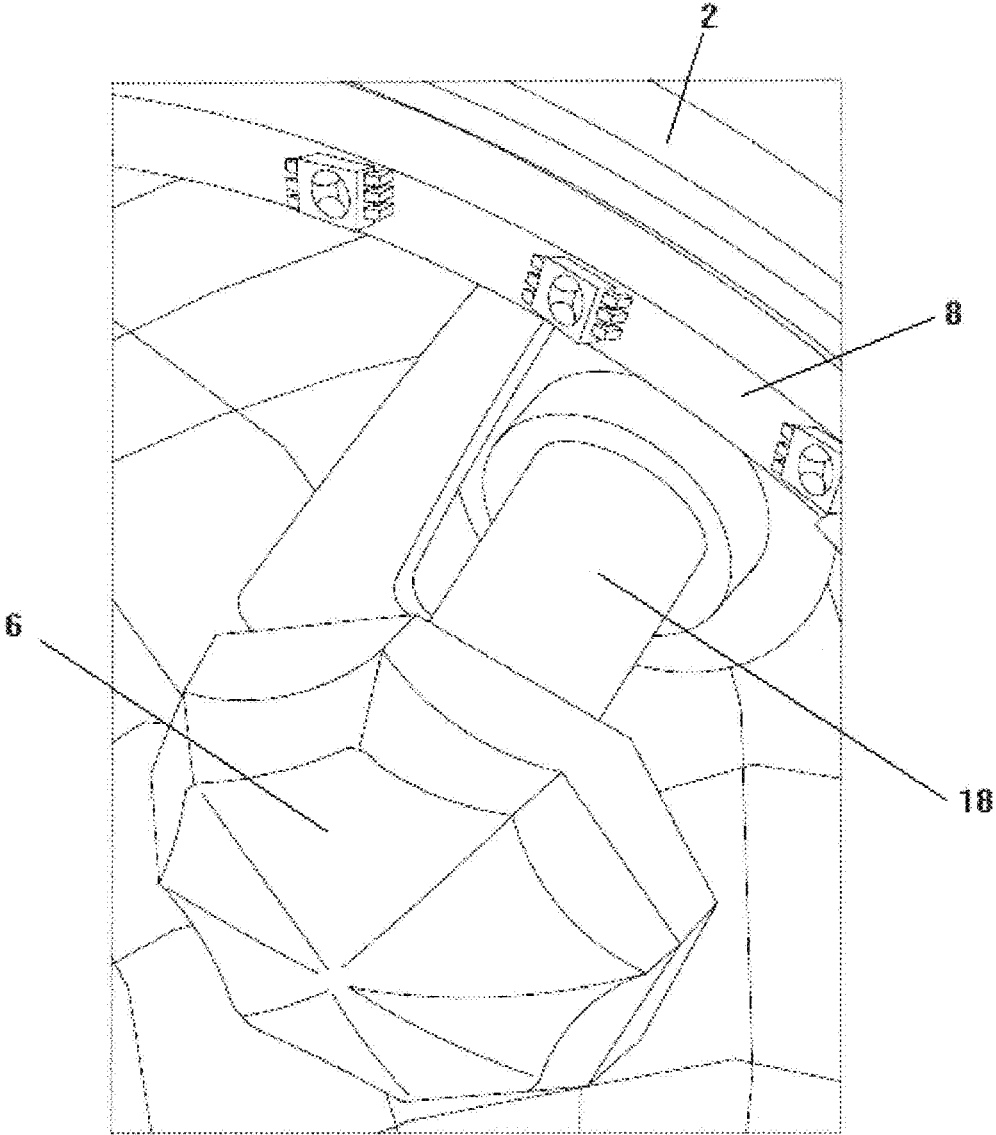


FIG. 3

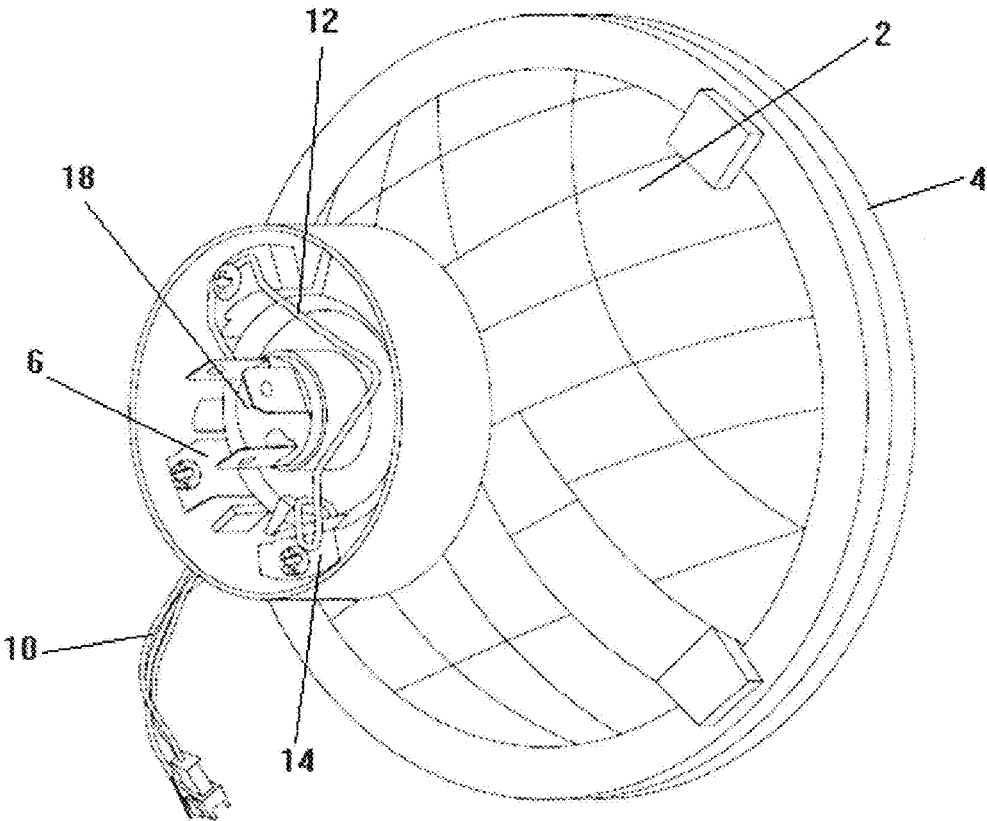


FIG. 4

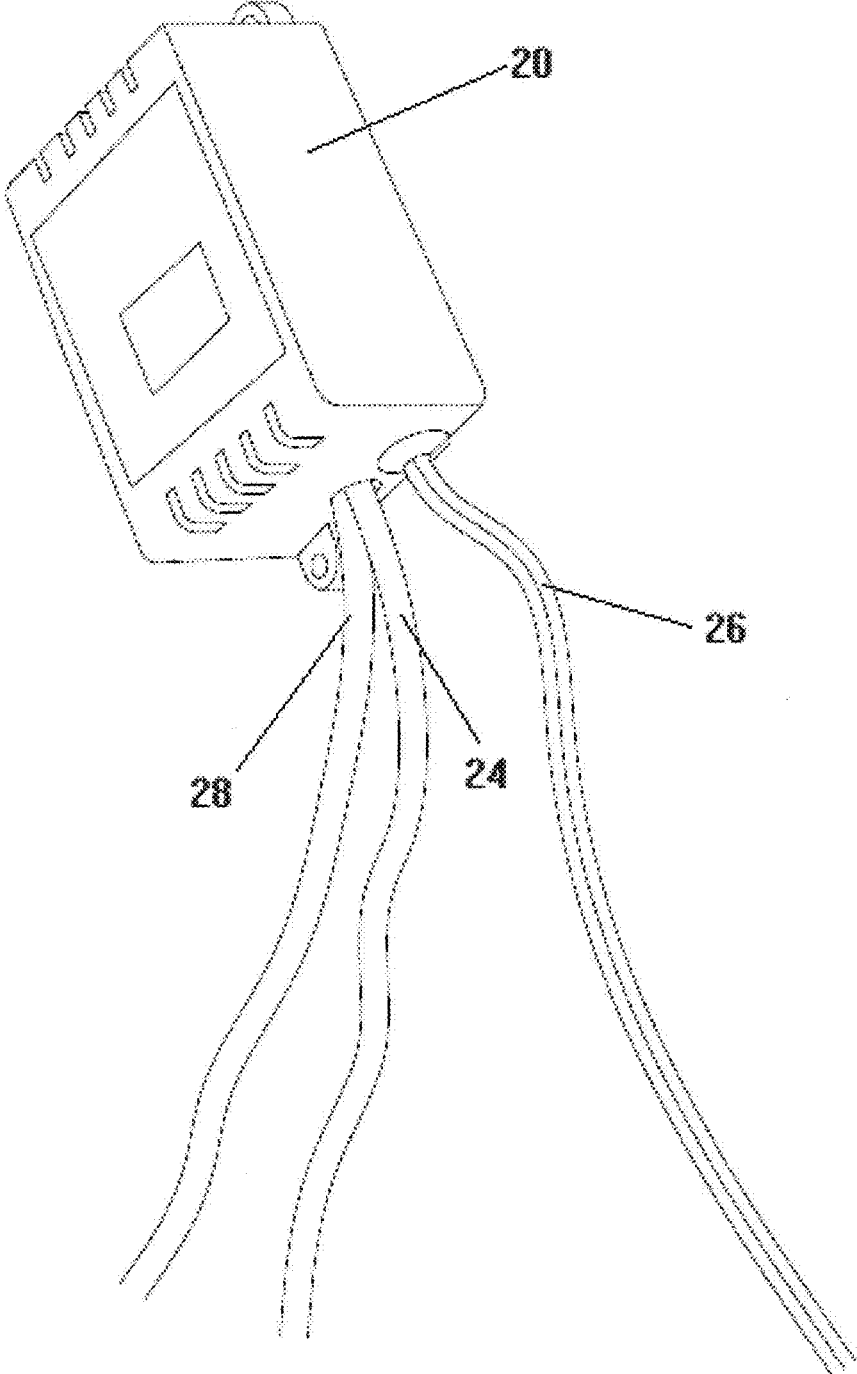


FIG. 5

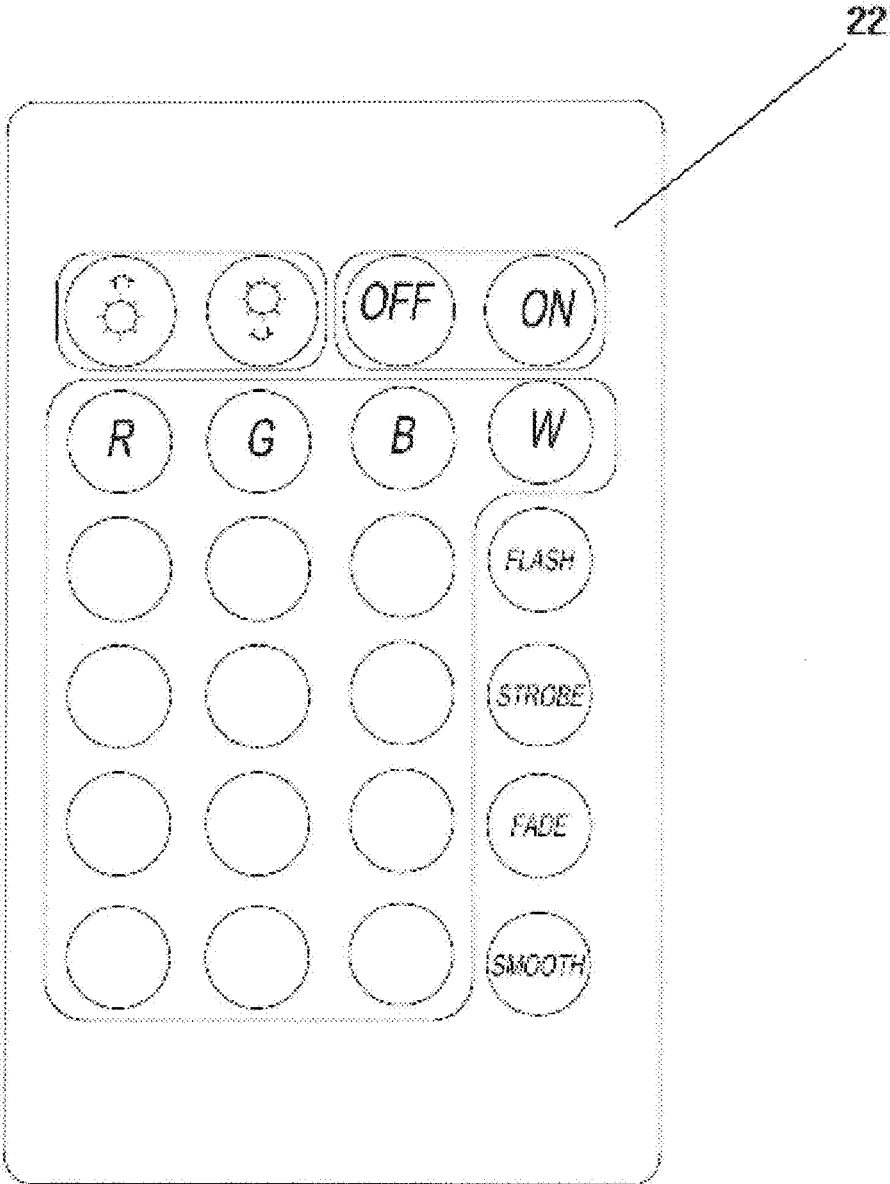


FIG. 6

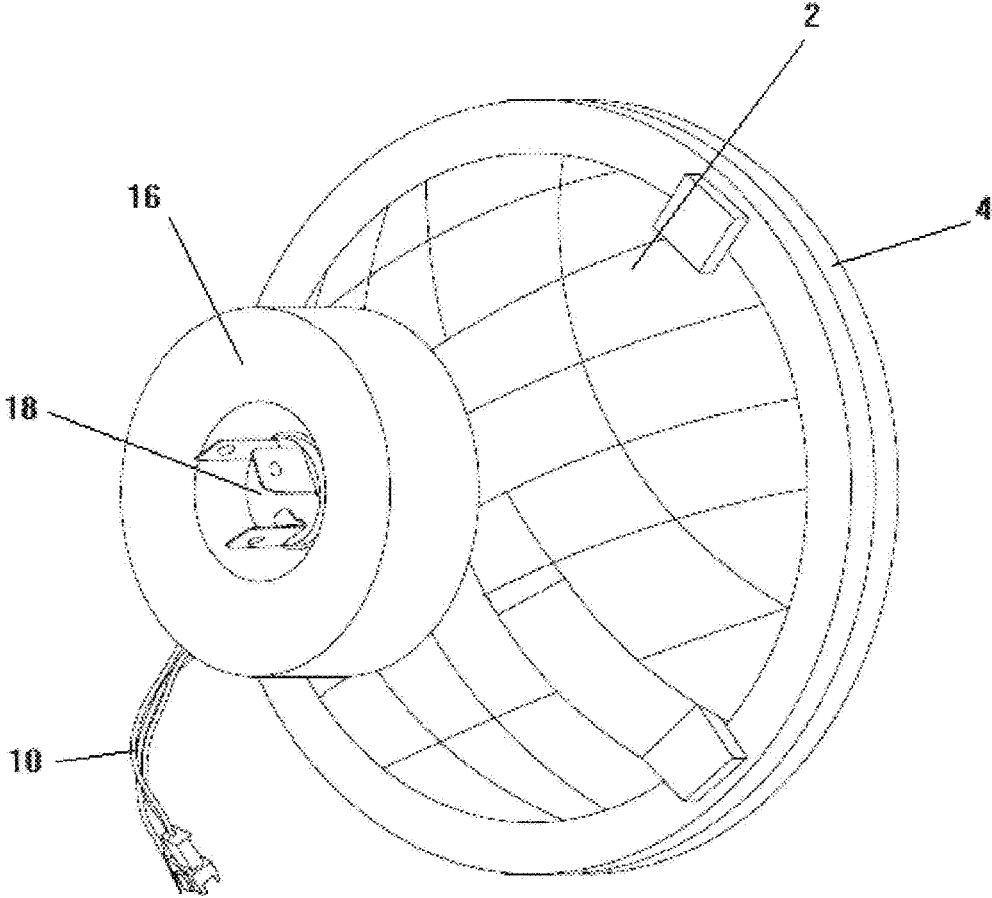


FIG. 7

SINGLE COLOR OR MULTIPLE COLOR LED ANGEL EYES HALO HEADLIGHT

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of Provisional Patent Application No. 61/539,304, filed Sep. 26, 2011

BACKGROUND—PRIOR ART

[0002] The following is a tabulation of some prior art that presently appears relevant:

U.S. Patent			
Pat. No.	Kind Code	Issue Date	Patentee
7,261,452	B2	Aug. 28, 2007	Charles M. Coushaine, Thomas Tessnow

FIELD OF INVENTION

[0003] This disclosure relates to a motor-vehicle headlight and more particularly to such headlights or spotlight employing more than one lighting sources; one using a main lighting device lamp in the center and another with more than one Light Emitting Diodes (hereafter, LED OR LED's). Still more as it relates to a headlight or as spotlight using multiple LED's.

BACKGROUND

[0004] Present day headlights offer many features to include ascetic design, safety and brighter illumination. The round and square headlight technology of vintage vehicles has not advanced to include these present day technologies. Vintage vehicle show car owners desire a more modern technology and retro headlight design to fit their vehicles. The object of this invention is to overcome drawbacks of Original Equipment Manufactured (hereafter, OEM) headlights by providing a brighter and more focused beam that also provides better side light and further distant illumination. In addition to an improved main lighting device lamp, another accentuating feature that provides added illumination and safety is the addition of daylight Running Lights (hereafter DRL). The DLR Feature employed is an ascetically pleasing design in the form of a ring characteristic, of a halo provided by introducing a Printed Circuit Board (hereafter, PCB) containing Surface mounted Device hereafter SMD) led's symmetrically spaced on a ring with LED's light illumination facing forward and outward from the headlight. This DLR is dual featured; first featured as additional lighting for driving when selected and the second feature as accent lighting when participating at a car show with the user ability to remotely choose an LED color shade that matches or contrast the color of their vehicle.

SUMMARY

[0005] An object of the invention is to overcome some of the drawbacks relating to the compromise designs of prior art devices as described above.

[0006] The embodiments reside in the Single color or multiple color LED angel eyes halo headlight. A circular round motor-vehicle or non-motor-vehicle headlight enclosure **2** with a parabolic or non parabolic reflective base with a clear crystal glass lens **4** containing a main lighting device lamp **18** and containing a ring characteristic of a halo with more than one LED's **8** with light illumination facing forward and outward from the headlight through the clear glass lens.

[0007] A headlight enclosure with an area around the main lighting device lamp at the base and on the internal circumferential wall contains a PCB **8** containing more than one single color or multiple color SMD LED's symmetrically spaced and visibly facing forward and outward. PCB **8** is located on the inside of the headlight immediately behind the clear crystal glass lens **4**. Extended from the PCB **8** are wires that extend from the base of the PCB **8** inside of the headlight to exit outside of the headlight with a rubber grommet to a connector **10**.

[0008] A headlight enclosure allows for the interchangeability of a selection of lamps as the main lighting device lamp **18**. The main lighting device lamp **18** is an independent lighting source then that of the PCB **8** SMD LED ring. The main lighting device lamp **18** uses the vehicle OEM wiring and switching systems to supply power.

[0009] The backside of the headlight includes a lamp receiving area in the form of a cylindrical base containing the headlight retention assembly where the lamp shade **6** is attached to the headlight and to also contain a lamp retaining spring **12** and lamp retaining spring clip **14** to tightly retain the main lighting device lamp **18** and the pliable rubber like boot **16** to cover and encapsulate headlight enclosure **2** and weather proof the headlight lamp receiving area.

[0010] Provides 50% more lighting over OEM headlights.

[0011] Provides additional lighting provided by the PCB **8** SMD LED's light illumination facing forward and outward from the headlight providing a switchable addition lighting system. This lighting system can be setup to provide additional lighting for safety. When this lighting is used as a Daylight Running Light (hereafter, DRL), which is employed on many new cars of this day, can provide noticeable lighting to other drivers in the prevention of vehicular accidents.

[0012] Includes a wireless transmitting device **22** to send signals remotely to a wireless receiving device and signal processing circuitry that then pass the signals via wire harness **28** to headlight enclosure **2** to PCB **8** SMD LED's on a ring characteristic of a halo for color selection, color intensity, turn on all LED's, turn off all LED's, and selectable modes of color patterns remotely based on a users choice. The wireless transmitting device **22** can be but not limited to a smart phone device with a user interface application, Blue Tooth transmitting device, Internet Packet (IP) addressable device, Infrared transmitting device and Radio Frequency (RF) transmitting device. The wireless transmitting device is powered by a battery source.

[0013] Includes a wireless receiving device **20** to receive and process remotely received signals with a signal processing circuitry to the SMD LED's on the PCB **8** ring characteristic of a halo for color selection, color intensity, turn on all LED's, turn off all LED's, and selectable modes of color patterns based on a users choice. The wireless receiving device **20** can be but not limited to a Blue Tooth receiving device, Internet Packet (IP) addressable receiving device,

Infrared receiving device and Radio Frequency (RF) receiving device. The wireless receiving device and signal processing circuitry 20 is powered via wire to the vehicle battery source.

[0014] Includes a wiring harness 28 from the wireless receiving device and signal processing circuitry 20 to contain one or more connectors 10 connected directly to headlight enclosure 2.

[0015] SMD LED's emits a solid color of any color shade or of a multiple color of any color shade changeable from signals carried from a wiring harness 28 and then from the signals from the wireless receiving device and signal processing circuitry 20.

[0016] Allows is user the ability to choose to bypass by way of harness wire 10 the wireless transmitting device 22 and wireless receiving devices signal processing circuitry 20 to directly connect to OEM wiring for the single color LED headlight if the user wants the headlight color and intensity settings to be set to default settings.

[0017] Includes the latest in present day SMD LED's made in many types shapes, emitting radius, viewing angles and levels of brightness and illumination.

DESCRIPTION OF THE DRAWINGS

[0018] FIG. 1 shows the front view of the Single color or multiple color LED angel eyes halo headlight.

[0019] FIG. 2 shows a side view of the Single color or multiple color LED angel eyes halo headlight with the glass lens unattached.

[0020] FIG. 3 shows an up close view of the lamp under the lamp shield and a close up view of the PCB containing more than one SMD single color or multiple color LED's symmetrically spaced and visibly facing forward and outward from the headlight.

[0021] FIG. 4 shows the rear view of the headlight exposing the lamp receiving assembly area.

[0022] FIG. 5 shows an example of what the wireless receiving device and signal processing circuitry may look like depending on which wireless technology employed.

[0023] FIG. 6 shows an example of what the wireless transmitting device may look like depending on the wireless technology employed.

[0024] FIG. 7 shows an example of what the rear of the headlight with a pliable rubber like boot to cover the lamp and lamp assembly area to seal and weather proof the headlight.

DRAWINGS—REFERENCE NUMERALS

[0025]

2 - Headlight Enclosure	4 - Glass Lens
6 - Lamp Shield	8 - Printed Circuit Board (PCB) in the form of a ring characteristic of a halo containing more than one Surface Mounted Device (SMD)
10 - LED signal harness with connector	12 - Lamp retainer spring
14 - Lamp retain spring clip	16 - Rubber pliable boot
18 - Main Lighting Device Lamp	20 - Wireless receiving device and signal processing circuitry.
22 - Wireless transmitting device	24 - Harness wire for positive and negative power
26 - Signal receiver wire	28 - Wire harness to receiving device and signal processing circuitry.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0026] Referring now to the drawings with greater particularity, there is shown in FIG. 1. A symmetrical frontal view of the headlight as if it was mounted in a vehicle. From this view the two lighting systems are pointed forward from the vehicle. Headlight enclosure 2 has attached in the center a lamp shield 6 to cover the direct lighting from the main lighting device lamp 18 (not shown in drawing) and to disburse the lighting backward to mirror like parabolic reflective base of headlight enclosure 2 outward of the headlight through clear glass lens 4. The PCB in the form of a ring characteristic of a halo containing more than one SMD single color or multiple color LED's with light illumination facing forward and outward to provide a secondary lighting system. FIG. 2. Shows a symmetrical side view of headlight enclosure 2. The lamp shield 6 shown in the center with the main lighting device lamp 18 shown under the lamp shield 6. PCB 8 showing more than one SMD LED's is attached to headlight enclosure 2 at the outer circumferential wall just below the glass lens 4. Glass Lens 4 once installed encapsulates ail the inner components listed to provide a weatherproof seal to the front of headlight enclosure 2. Rubber pliable boot 16 is applied over the rear cylindrical base of headlight enclosure 2 to provide a weatherproof seal to the rear of headlight enclosure 2. Wire harness 10 is the wire harness that is connected to the PCB 8 on the inside of the headlight and passes through a grommet to the outside of the headlight. Wire harness 10 has a quick disconnect connector attached on the end.

[0027] FIG. 3. shows a cutaway close up view of FIG. 2. Headlight enclosure 2 with the lamp shield 6 shown in the center with the main lighting device lamp 18 shown under the lamp shield 6. PCB 8 showing more than one SMD LED's is attached to headlight enclosure 2 at the outer circumferential wall just below the glass lens 4.

[0028] FIG. 4. shows a symmetrical rear view of headlight enclosure 2. The rear of headlight enclosure 2 contains a cylindrical base containing the headlight retention assembly and the place to secure the center lamp shield 6 and main lighting device lamp 18. Lamp Shield 6 is secured to headlight enclosure 2 by a Phillips screw. The headlight retention assembly contains the lamp retainer spring 12 and the lamp retainer spring clip 14. The main Writing device lamp 18 is secured by the pressing on the end of the lamp retainer spring 12 to clipping the end of the lamp retainer spring 12 under lamp retainer spring clip 14 this retaining the main lighting device 18. The lamp retainer spring and lamp retainer spring clip 14 is secured to headlight enclosure 2 by a Philips screw. Wire harness 10 is the wire harness that is connected to the PCB 8 on the inside of the headlight and passes through a grommet to the outside of the headlight enclosure 2. Wire harness 10 has a quick disconnect connector attached on the end.

[0029] FIG. 5. shows a view of the receiving device and signal processing circuitry 20. The receiving device and signal processing circuitry 20 is mounted in a secure place in a vehicle. Signal receiving wire 26 should be placed in a place where a good signal can be received. Wire harness to receiving device and signal processing circuitry 28 should be connected to each wire harness JO connected to headlight enclosure 2. Harness wire for positive and negative power

24 should be attached to a positive and negative of the vehicles power source. Glass lens **4** is attached to the front of headlight enclosure **2**.

[0030] FIG. 6. shows a view of the wireless transmitting device **22** to wireless send signals to the wireless receiving device and signal processing circuitry **20**. The wireless transmitting device **22** allows the user to select by touching a button; to turn on all of the LED's, to turn off all of the LED's, color intensity, a color shade and or a mode selection to specify an alternating color pattern.

[0031] FIG. 7. shows a symmetrical rear view of head enclosure **2**. The rear of headlight enclosure **2** contains a cylindrical base containing the headlight retention assembly and the place to secure the center lamp shield **6** and main lighting device lamp **18**. Pliable rubber boot **16** covers the cylindrical base containing the headlight retention assembly with a weatherproof seal to keep moisture out of the headlight. Wire harness **10** is the wire harness that is connected to the PCB **8** on the inside of the headlight and passes through a grommet to the outside of the headlight. Wire harness **10** has a quick disconnect connector attached on the end.

[0032] The Single color or multiple color LED angel eyes halo headlight and its embodiments are made of plastic, steel, glass, rubber and PCB but different materials can also be used. Although the descriptions above contain many specification, these should not be construed as limiting the scope of the embodiments for example the headlight can be made in many different shapes and forms. The headlight enclosure and lens can be made into other shapes such as square, rectangle, oblong, oval, two piece or more, expandable and etc. The headlight enclosure and lens can be formed in many different types and forms. The PCB can conform to the same shape or form to fit the headlight enclosure. The headlight reflective base can be of many shapes and patterns or no pattern. The transmission and receiving device can be made of many different shapes, forms and materials. The Light Emitting Diodes (LED) includes the latest in present day LED technology can be made in many types, sizes, shapes, forms and materials, emitting radius, and levels of brightness and illumination. The lamp shade can be made of many different sizes, shapes, forms and materials. The rubber boot can be made in many pliable shapes, sizes forms and materials. Thus the scope of the embodiments should be determined by the appended claims and their legal equivalence rather than by the examples given.

I claim:

1. A circular round motor-vehicle or non-motor-vehicle headlight enclosure **2** with a parabolic or non parabolic reflective base with a clear crystal glass lens **4** containing a main lighting device lamp **18** and containing a ring characteristic of a halo with more than one LED's **8** with light illumination facing forward and outward from the headlight through the clear glass lens.

2. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein its area around the main lighting device lamp at the base and on the internal circumferential wall contains a Printed Circuit Board (hereafter, PCB) **8** containing more than one single color or multiple color SMD LED's symmetrically spaced and visibly facing forward and outward. PCB **8** is located on the inside of the headlight immediately behind the clear crystal glass lens **4**. Extended from the PCB **8** are wires that extend from the

base of the PCB **8** inside of the headlight to exit outside of the headlight via a rubber grommet to a connector **10**.

3. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein allows for the interchangeability of a selection of lamps **18** as the main lighting device. The main lighting device lamp **18** is an independent lighting source then that of the PCB **8** SMD LED ring. The main lighting device lamp **18** uses the OEM wiring and switching systems to supply power.

4. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein on the backside of the headlight includes a lamp receiving area in the form of a cylindrical base containing the headlight retention assembly where the lamp shade **6** is attached to the headlight and to also contain a lamp retaining spring **12** and lamp retaining spring clip **14** to tightly retain the main lighting device lamp **18** and the pliable rubber like boot **16** to cover and encapsulate headlight enclosure **2** and weather proof the headlight lamp receiving area.

5. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein a headlight that provides 50% more lighting over Original Equipment Manufacturers (hereafter, OEM) headlights.

6. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein provides additional lighting provided by the PCB **8** SMD LED's light illumination lumination facing forward and outward from the headlight providing a switch able addition lighting system. This lighting system can be setup to provide addition lighting for safety. When this lighting is used as a Daylight Running Light (hereafter, DRL), which is employed on many new cars of this day, can provide noticeable lighting to other drivers in the prevention of vehicular accidents.

7. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein includes a wireless transmitting device **22** to send signals remotely to a wireless receiving device and processing circuitry that then pass the signals via wire harness **28** to headlight enclosure **2** to PCB **8** SMD LED's on a ring characteristic of a halo for color selection, color intensity, turn on all LED's, turn off all LED's, and selectable modes of color patterns remotely based on a users choice. The wireless transmitting device **22** can be but not limited to a smart phone device with a user interface application, Blue Tooth transmitting device, Internet Packet (IP) addressable device, Infrared transmitting device and Radio Frequency (RE) transmitting device. The wireless transmitting device is powered by a battery source.

8. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein includes a wireless receiving device **20** to receive and process remotely received signals with a signal processing circuitry to the SMD LED's on the PCB **8** ring characteristic of a halo for color selection, color intensity, turn on all LED's, turn of all LED's, and selectable modes of color patterns based on a users choice. The wireless receiving device **20** can be but not limited to a Blue Tooth receiving device, Internet Packet (IP) addressable receiving device, Infrared receiving device and Radio Frequency (RF) receiving device. The wireless receiving device and signal processing circuitry **20** is powered via wire to the vehicle battery source.

9. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein includes a wiring harness **28** from the wireless receiving device and signal

processing circuitry **20** to contain one or more connectors **10** connected directly to headlight enclosure **2**.

10. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein SMD LED's emits a solid color of any color shade or of a multiple color of any color shade changeable from signals carried by a wiring harness **28** and then from the signals from the wireless receiving device and signal processing circuitry **20**.

11. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein allows a user the ability to choose to bypass by way of harness wire **10** the wireless transmitting device **22** and wireless receiving devices signal processing circuitry **20** to directly connect to OEM wiring for the single color LED headlight if the user wants the headlight color and intensity settings to be set to default settings.

12. The Single color or multiple color LED angel eyes halo headlight defined in claim **1** wherein includes the latest in present day SMD LED's made in many types shapes, emitting radius, viewing angles and levels of brightness and illumination.

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