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Giametta

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

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Related U.S. Application Data

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

(51) **Int. Cl.**

F21V 21/00	(2006.01)
F21K 9/278	(2016.01)
B60Q 1/00	(2006.01)

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

CPC ***F21K 9/278*** (2016.08); ***B60Q 1/0052*** (2013.01); *B60Q 2400/30* (2013.01); *B60Q 2900/30* (2013.01)

(58) **Field of Classification Search**

CPC ... F21K 9/278; B60Q 1/0052; B60Q 2400/30; B60Q 2900/30

USPC 362/545, 539

See application file for complete search history.

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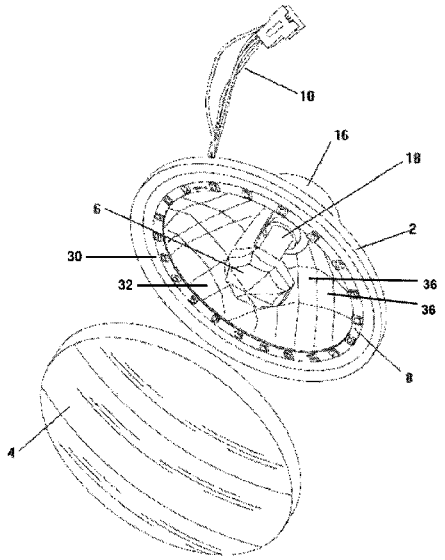
(57) **ABSTRACT**

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) characteristic of a halo of more than one visible Single color or Multiple color LED 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 LED color shade, intensity and pattern.

4 Claims, 7 Drawing Sheets



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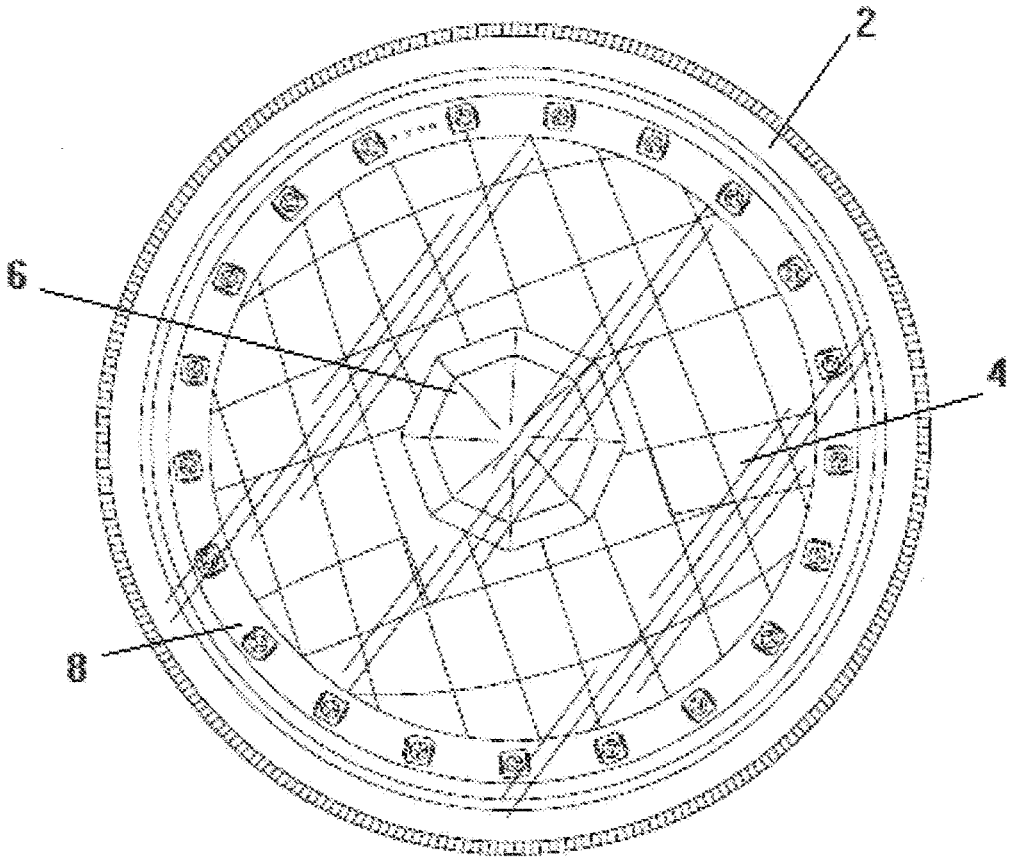

FIG. 1

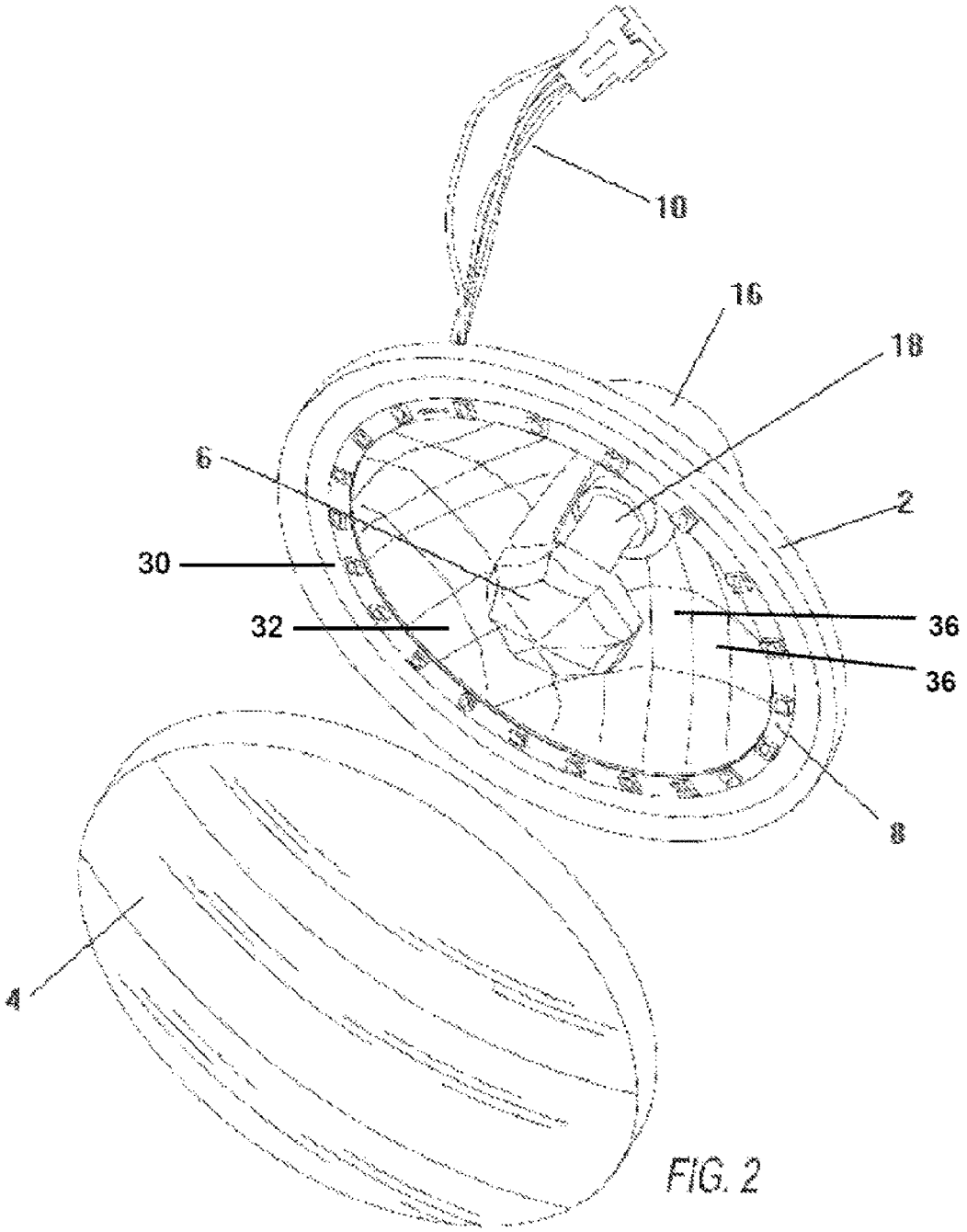

FIG. 2

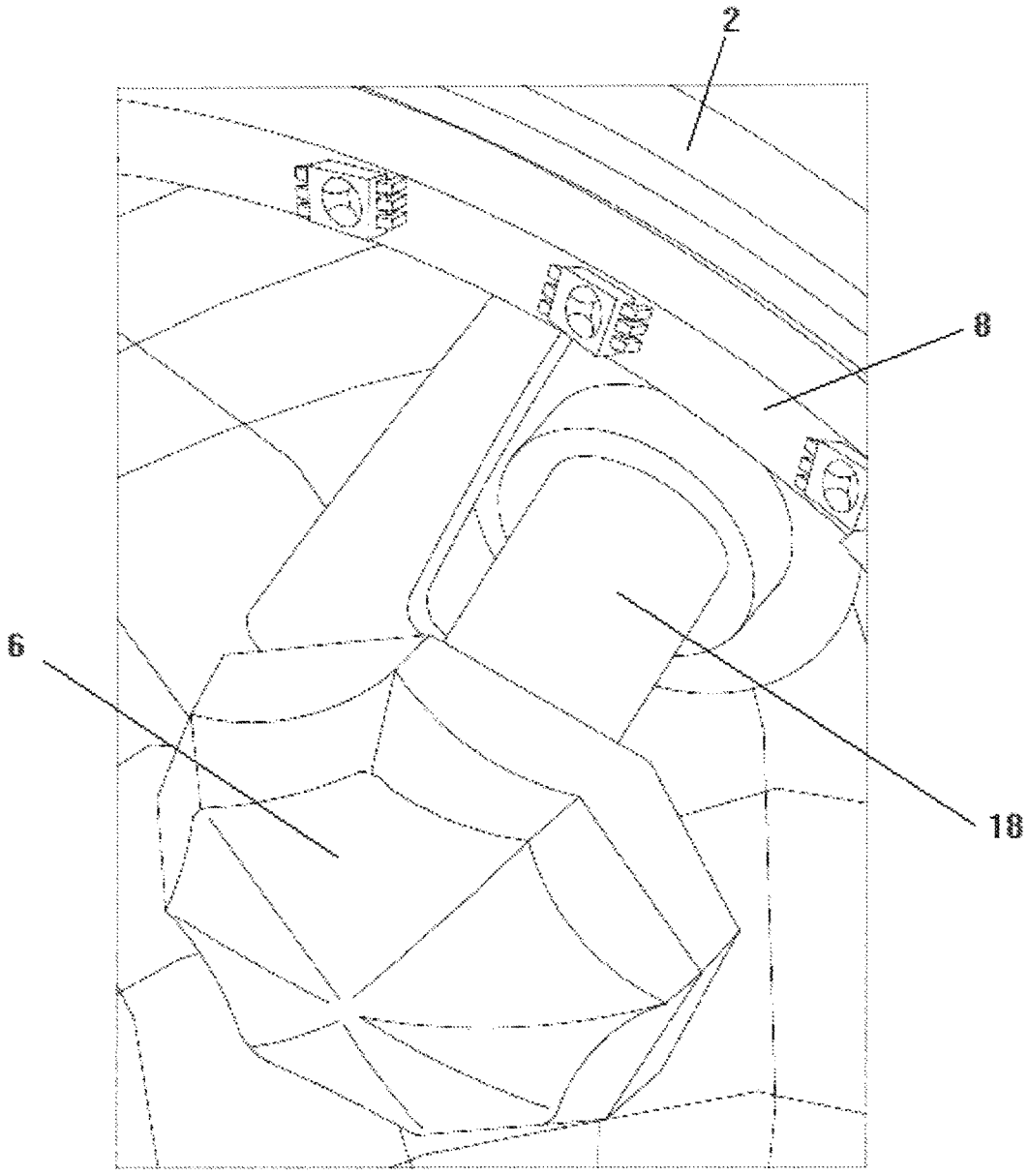

FIG. 3

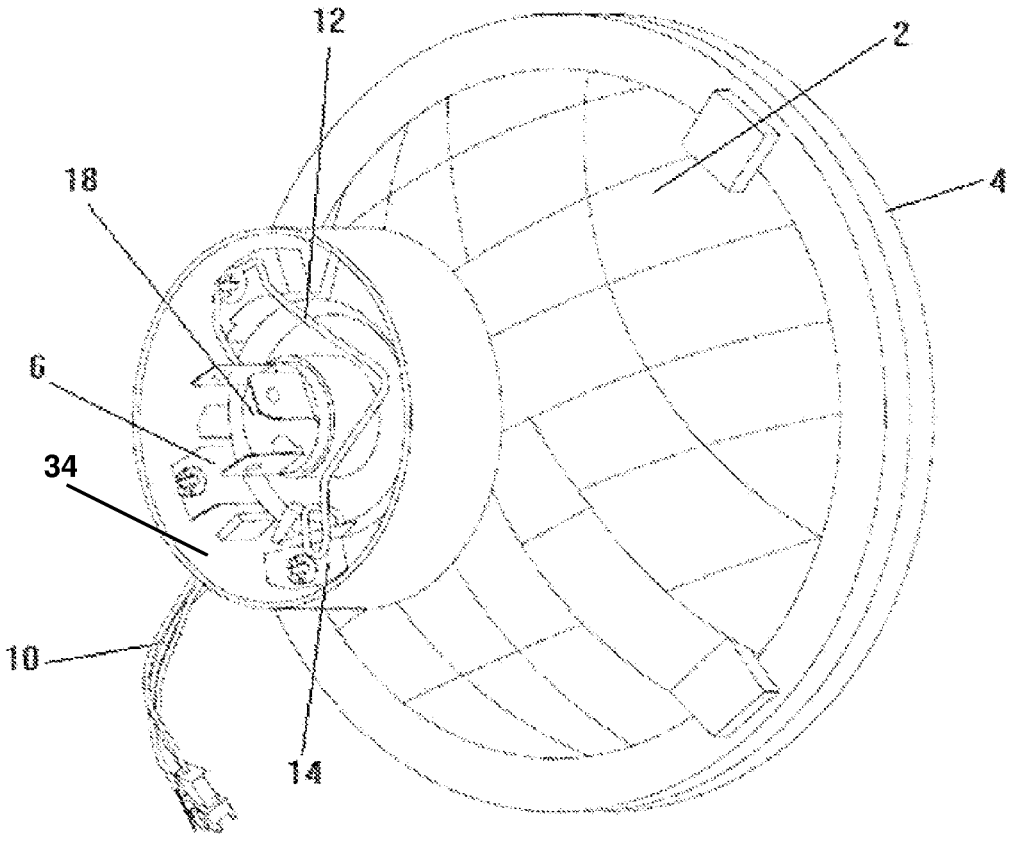

FIG. 4

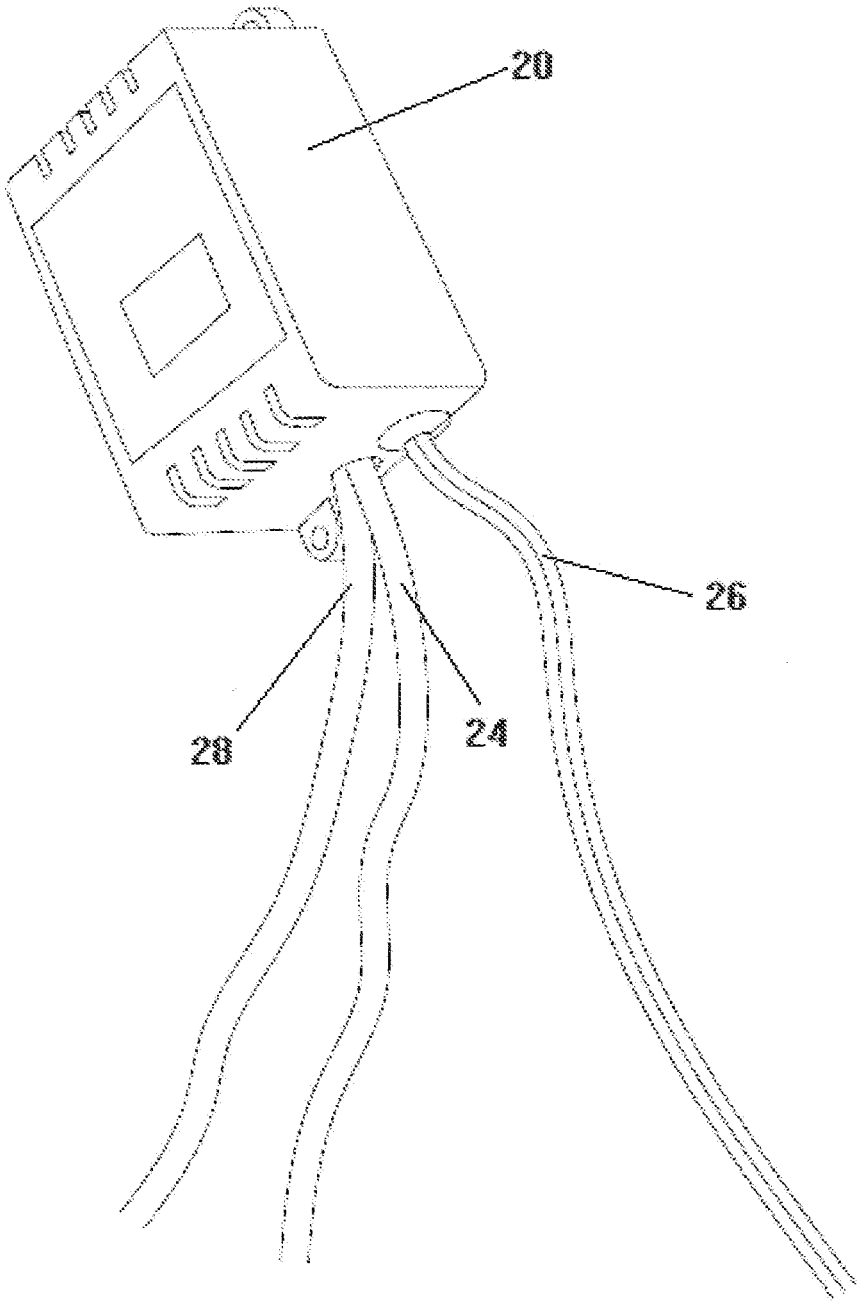

FIG. 5

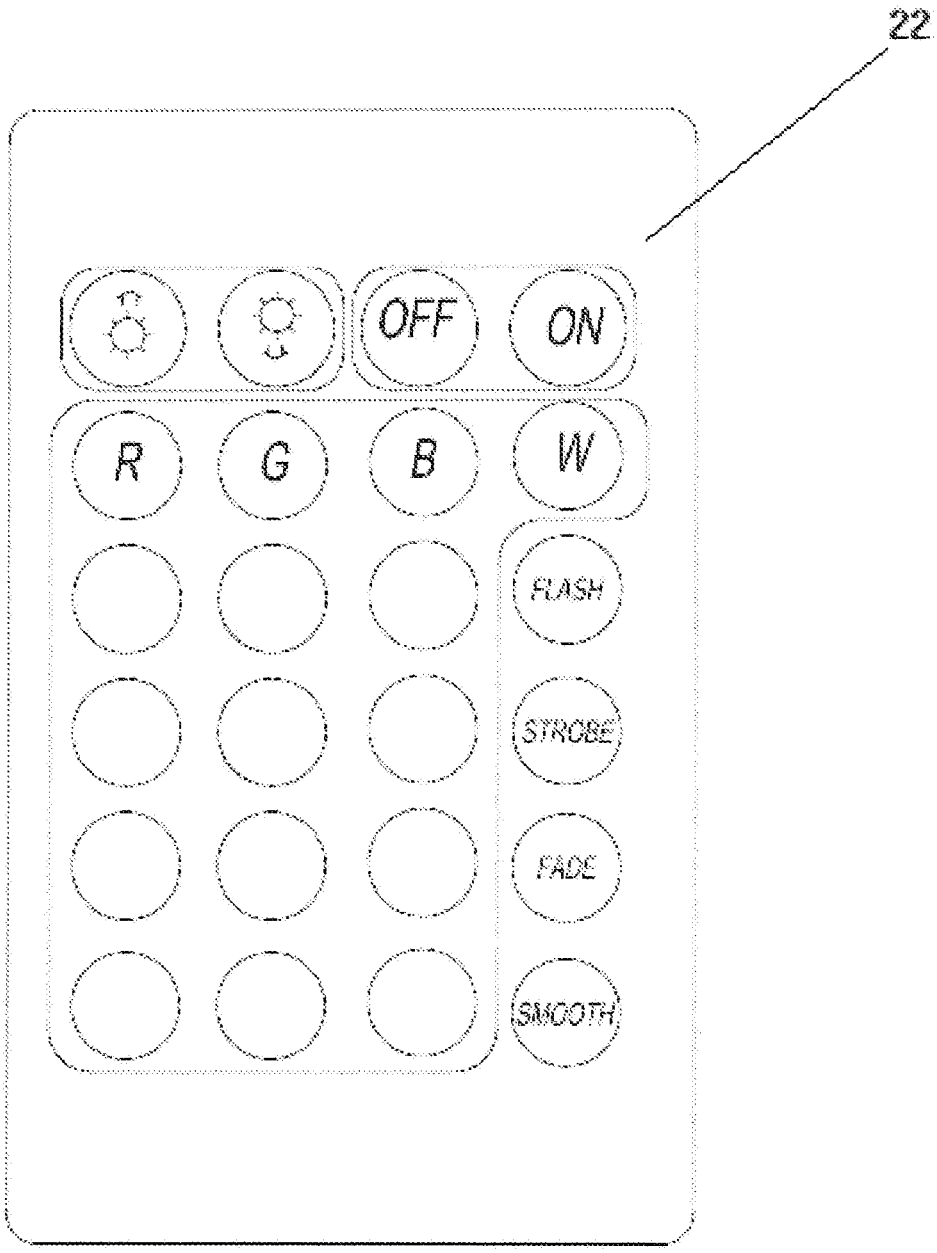

FIG. 6

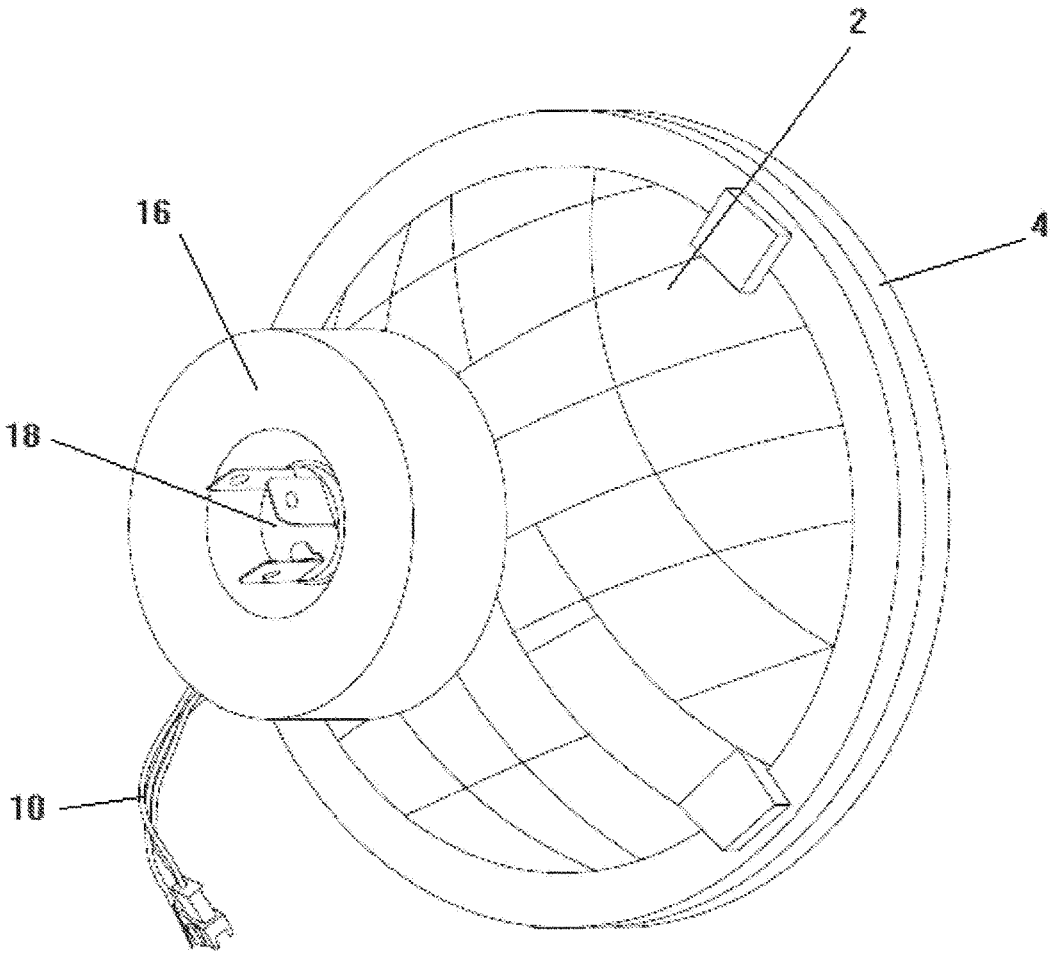

FIG. 7

SINGLE COLOR OR MULTIPLE COLOR LED ANGEL EYES HALO HEADLIGHT

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation application of non-provisional patent application Ser. No. 13/621,805, titled "Single Color Or Multiple Color LED Angel Eyes Halo Headlight", filed Sep. 17, 2012 in the United States Patent and Trademark Office, which claims the benefit of Provisional Patent Application No. 61/539,304, filed Sep. 26, 2011 in the United States Patent and Trademark Office. The specifications of the above referenced applications are incorporated herein by reference in their entirety.

FIELD OF INVENTION

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). Still more as it relates to a headlight or a spotlight using multiple LED.

BACKGROUND

Present day headlights offer many features to include asthetic 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 modem 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 DRL feature employed is an aesthetically 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 symmetrically spaced on a ring with the LED light illumination facing forward and outward from the headlight. This DRL 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 contrasts the color of their vehicle.

SUMMARY OF THE INVENTION

An object of the Invention is to overcome some of the drawbacks relating to the compromise designs of prior art devices as described above. 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 **32** and a circular opening **30** opposite the reflective base **32**. The circular round headlight enclosure **2** further comprises a clear crystal glass lens **4** containing a main lighting device lamp **18** and containing a PCB **8** with a ring characteristic of a halo with more than one LED with light illumination facing forward and outward from the headlight through the clear glass lens.

A headlight enclosure with an area around the main lighting device lamp at the reflective base **32** and on the internal circumferential wall contains the PCB **8** containing more than one single color or multiple color SMD LED 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 (not shown) to a connector **10**.

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.

The backside of the headlight includes a lamp receiving area in the form of a cylindrical base **34** 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.

Provides 50% more lighting over OEM headlights.

Additional lighting is provided by the PCB **8** SMD LED with 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 ears of this day, the DRL can provide noticeable lighting to other drivers and aid in the prevention of vehicular accidents.

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 PCS **8** SMD LED on a ring characteristic of a halo for color selection, color intensity, turn on all LED, turn off all LED, 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, Bluetooth 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.

Includes a wireless receiving device **20** to receive and process remotely received signals with a signal processing circuitry to the SMD LED on the PCB **8** ring characteristic of a halo for color selection, color intensity, turn on all LED, turn off all LED, and selectable modes of color patterns based on a users choice. The wireless receiving device **20** can be but not limited to a Bluetooth 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.

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**.

SMD LED 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**.

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.

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

BRIEF DESCRIPTION OF THE DRAWINGS

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

FIG. **2** shows a side view of the Single color or multiple color LED angel eyes halo headlight will; the glass lens unattached.

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 symmetrically spaced and visibly facing forward and outward from the headlight.

FIG. **4** shows the rear view of the headlight exposing the lamp receiving assembly area.

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

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

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

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) single color or multiple color Light Emitting Diode(s)
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
30—Circular opening
32—Reflective base
34—Cylindrical base.

DETAILED DESCRIPTION OF THE INVENTION

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. In 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 **32** 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 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** is shown under the lamp shield **6**. PCB **8**, showing more than one SMD LED is attached to headlight enclosure **2** at the outer circumferential wall just below the glass lens **4**. Glass Lens **4** once installed encapsulates all 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 **34** 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 (not shown) to the outside of the headlight. Wire harness **10** has a quick disconnect connector attached on the end. The lamp shield **6** covers the lighting device lamp **18** to block light from the lighting device lamp from being transmitted directly forward and out of the headlight enclosure **2**. The lamp shield **6** reflects light from the lighting device lamp **18** backward to the parabolic reflective base **32**, and the parabolic reflective base **32** reflects the light from the lamp shield **6** and incident on the parabolic reflective base **32**, forward and directly out of the headlight enclosure **2** through a single clear glass lens **4**.

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 is attached to headlight enclosure **2** at the outer circumferential wall just below the glass lens **4**.

FIG. **4** shows a symmetrical rear view of headlight enclosure **2**. The rear of headlight enclosure **2** contains a cylindrical base **34** 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 (not shown). The headlight retention assembly contains the lamp retainer spring **12** and the lamp retainer spring clip **14**. The main lighting device lamp **18** is secured by pressing on the end of the lamp retainer spring **12** and clipping the end of the lamp retainer spring **12** under lamp retainer spring clip **14** thus 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 (not shown) to the outside of the headlight enclosure **2**. Wire harness **10** has a quick disconnect connector attached on the end.

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 **10** connected to headlight enclosure **2**. Harness wire for positive and negative power

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

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, to turn off all of the LED, color intensity, a color shade and or a mode selection to specify an alternating color pattern.

FIG. **7** shows a symmetrical rear view of head enclosure **2**. The rear of headlight enclosure **2** contains a cylindrical base **34** 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 **34** 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.

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, 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 parabolic reflective base **32** can be of many shapes and patterns or no pattern. FIG. **2** shows generally square shaped patterns **36** on the parabolic reflective base **32**. The parabolic reflective base **32** having the square shaped patterns **36** reflects incident light corresponding to the square shaped patterns **36**. 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 shield **6** 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 multiple color headlight for a vehicle, the headlight system comprising:

a headlight enclosure;

a headlight lens disposed on the front of said headlight enclosure;

a main lighting device lamp, said main lighting device lamp disposed between a parabolic reflector disposed at a rear of said headlight enclosure and said headlight lens, said main lighting device lamp disposed within a lamp shield, said lamp shield configured to reflect light from said main lighting device lamp backward to said parabolic reflector, said parabolic reflector configured to project light from said main lighting device lamp in a forward direction through the headlight lens;

a plurality of light emitting diodes (LEDs) disposed on a circumferential wall within said headlight enclosure, said LEDs configured to emit light in a forward direction through said headlight lens, wherein said LED lights are configured to emit light selected from a predefined plurality of colors, color intensity and color patterns, and wherein the color, color intensity and color pattern of said light transmitted from said headlight is user-selectable.

2. The multiple color headlight of claim **1**, wherein the color of light selected from the predefined plurality of colors is white.

3. The multiple color headlight of claim **1**, wherein the main lighting device lamp is interchangeable with an original equipment manufacturer's main lighting device lamp.

4. A single color halo headlight for a vehicle, comprising:

a headlight enclosure;

a headlight lens disposed on the front of said headlight enclosure;

a main lighting device lamp, said main lighting device lamp disposed between a parabolic reflector disposed at a rear of said headlight enclosure and said headlight lens, said main lighting device lamp disposed within a lamp shield, said lamp shield configured to reflect light from said main lighting device lamp backward to said parabolic reflector, said parabolic reflector configured to transmit light from said main lighting device lamp in a forward direction through the headlight lens; and

a plurality of LEDs located within said headlight enclosure, said plurality of LEDs disposed on a circumferential wall within said headlight enclosure, said LEDs configured to emit a single color light of user's choice in a forward direction through the lens of the headlight.

* * * * *