IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors:	Michael Miskin and Robert L. Kottritsch		
Applicant:	Lynk Labs, Inc.		
Title:	MULTI-VOLTAGE AND MULTI-BRIGHTNESS LED LIGHTING DEVICES AND METHODS OF USING SAME		
Application No.:	16/274,164	Filing Date:	February 12, 2019
Examiner:	Crystal L. Hammond	Group Art Unit:	2844
Docket No.:	53998.14US05	Confirmation No.:	8373

Costa Mesa, California
June 13, 2019

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION

Dear Examiner:

Applicant submits this response in reply to the Office Action dated April 25, 2019 in the above-identified patent application.

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IN THE SPECIFICATION

Applicant hereby submits a substitute specification (a clean version and a marked-up version) for the above-identified application.

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IN THE CLAIMS

The following are claims 1 to 17:

1. (Currently Amended) An LED lighting device comprising:

a first operating LED circuit and at least one additional LED circuit, wherein at least one of the first operating LED circuit or the at least one additional LED circuit includes at least two LEDs connected in either series or parallel[[; and]]

a switch ~~capable~~ that is selectable by a user and configured to at least one of ~~switching~~ independently switch on or off at least one of the first LED circuit or the at least one additional LED circuit, ~~circuits on or off, wherein the on or off switching is selectable by a user switching~~ or switch at least one of the ~~switch~~ first LED circuit or the at least one additional LED circuit to a different level of brightness; and

a driver connected to the first operating LED circuit and the at least one LED circuit;

wherein the LED lighting device is configured to connect to an AC mains power source;

wherein the driver has an output voltage lower than the AC mains power source and a frequency higher than the AC mains power source; and

wherein the first operating LED circuit and the at least one additional LED circuit both have a forward voltage of 6V or greater.

~~wherein the LED lighting device is configured to connect to an AC voltage power source.~~

2. (Currently Amended) The LED lighting device of claim 1 wherein ~~at least one LED in at least one of~~ the first operating LED circuit and [[or]] the at least one additional LED circuit ~~can be driven with a forward voltage of 6V or greater~~ are mounted on a reflective substrate.

3. (Currently Amended) The LED lighting device of claim 1, ~~having a lens cover.~~ wherein at least one of the two LEDs in either the first LED circuit or the at least one additional LED circuit is coated with a light changing or enhancing substance that includes phosphor or nano-crystals.

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4. (Original) The LED lighting device of claim 1 having a standard lamp electrical base.

5. (Original) The LED lighting device of claim 1 further comprising a bridge rectifier.

6. (Currently Amended) A multi-brightness LED lighting device comprising:

a first LED circuit and at least one additional LED circuit, wherein the first LED circuit and the at least one additional LED circuit are connected in parallel; and wherein each of the first LED circuit and the at least one additional LED circuit[[s]] ~~including~~ includes at least two LEDs connected in series ~~or parallel~~; and

a switch that is selectable by a user and configured to at least one of independently switch on or off at least one of the first LED circuit or the at least one additional LED circuit[[,]]; ~~or switch at least one of the first LED circuit or the at least one additional LED circuit to a different level of brightness,~~

wherein the LED lighting device is configured to connect to an AC voltage power source[[.]]; and

wherein the first LED circuit and the at least one additional LED circuit are mounted on an insulating substrate.

7. (Currently Amended) The multi-brightness LED lighting device of claim 6, ~~wherein at least one LED in the first LED circuit or the at least one additional LED circuit can be driven with a forward voltage of 6V or greater~~ wherein the insulating substrate comprises sapphire.

8. (Currently Amended) The multi-brightness LED lighting device of claim 6 ~~having a lens cover~~ wherein at least one of the two LEDs in either the first LED circuit or the at least one additional LED circuit is coated with a light changing or enhancing substance that includes phosphor or nano-crystals.

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9. (Currently Amended) The multi-brightness LED lighting device of claim 6 ~~having a standard lamp electrical base~~ further comprising a driver that has an output with a frequency higher than the AC voltage power source.

10. (Currently Amended) The multi-brightness LED lighting device of claim 9 ~~further comprising a bridge rectifier~~ wherein at least one capacitor is connected to the output of the driver.

11. (Currently Amended) An LED lighting device comprising:

a first LED circuit and at least one additional LED circuit, each of the first LED circuit and the at least one additional LED circuit including at least two LEDs connected in series or parallel; and

a switch, wherein switching of the switch is selectable by a user to independently switch on or off at least one of the first LED circuit or the at least one additional LED circuit,

wherein the LED lighting device is configured to connect to an AC voltage power source[[.]]; and

wherein the first LED circuit, the at least one additional LED circuit, and the switch are integrated within or onto an LED package.

12. (Currently Amended) The LED lighting device of claim 11, wherein ~~at least one LED in at least one of the first operating LED circuit or the at least one additional LED circuit can be driven with a forward voltage of 6V or greater~~ the LED package includes a heat sink and a lens.

13. (Currently Amended) The LED lighting device of claim 11, ~~having a lens cover~~ wherein said first LED circuit and said at least one additional circuit are mounted on a reflective substrate.

14. (Currently Amended) The LED lighting device of claim 11, ~~having a standard lamp electrical base~~ wherein said LED package includes a bridge rectifier and a driver.

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15. (Currently Amended) The LED lighting device of claim 11, ~~further comprising a bridge rectifier~~ wherein the AC voltage power source is a mains power source, and wherein the LED lighting device is configured to be coupled to a dimmer switch, wherein the dimmer switch adjusts a voltage of the mains power source to dim the first LED circuit or the at least one additional LED circuit regardless of a user's selection via the switch.

16. (Cancelled)

17. (New) An LED lighting device comprising:

a first operating LED circuit and at least one additional LED circuit, wherein at least one of the first operating LED circuit or the at least one additional LED circuit includes at least two LEDs connected in either series or parallel; and

a switch capable of switching the at least one additional LED circuit on or off, wherein switching of the at least one additional LED circuit is selectable by a user switching the switch;

wherein the LED lighting device is configured to connect to an AC mains power source; and

wherein the first operating LED circuit and the at least one additional LED circuit are mounted on a substrate including a heat sink.

18. (New) The LED lighting device of claim 17, wherein the at least two LEDs are coated with a light changing or enhancing substance that includes phosphor or nano-crystals.

19. (New) The LED lighting device of claim 17, wherein LEDs in the first operating LED circuit are a different size than other LEDs in the at least one additional LED circuit.

20. (New) The LED lighting device of claim 17, wherein the LED lighting device is configured to be coupled to an LED driver with a 12V output.

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21. (New) The LED lighting device of claim 17 further comprising:

a dimmer switch configured to adjust a voltage of the AC voltage power source to dim the first operating LED circuit or the at least one additional LED circuit regardless of a user's selection via the switch.

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REMARKS

Applicant submits the above amendments and these remarks in reply to the Office Action dated March 28, 2019.

Specification Amendments

In the specification, new paragraphs 39-43 are added, support for which is provided by at least paragraphs 13, 14, 16, 17, and 21 of U.S. Provisional Patent Application No. 61/217,215 filed May 28, 2009, which was previously incorporated by reference (see paragraph 1 of the originally-filed specification of the present patent application). No new matter is added.

Claim Amendments

Applicant has amended claims 1, 2, and 6-15. Claim 16 has been cancelled. New independent claim 17 and new dependent claims 18-21 have been added. No new matter is added.

Double Patenting Rejection:

Claims 1-16 have been rejected under 35 U.S.C. § 101 for statutory double patenting as allegedly claiming the same invention as that of claims 1-12 and 14-21 of U.S. Patent No. 10,271,393. Applicant respectfully submits that the complete language of original claims 1-16 of the present application differs from claims 1-12 and 14-21 of U.S. Patent No. 10,271,393. Notwithstanding the above, Applicant respectfully submits that that the statutory double patenting rejections of claims 1-16 are now moot in light of the amendments noted above. Accordingly, Applicant respectfully requests that the statutory double patenting rejections under 35 U.S.C. § 101 be withdrawn.

Rejections Under 35 U.S.C. § 102

Claims 1-4, 6-9, 11-14, and 16 stand rejected under pre-AIA 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Patent No. 7,748,877 ("Colby"). Claims 1, 6, and 11 are independent claims; claim 16 has been cancelled. Applicant respectfully traverses these rejections.

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Independent Claim 1

Applicant respectfully submits that Colby fails to disclose each and every element of amended independent claim 1. Independent claim 1 has been amended to recite "a driver connected to the first operating LED circuit and the at least one LED circuit; . . . wherein the driver has an output voltage lower than the AC mains power source and a frequency higher than the AC mains power source." Colby fails to disclose a driver that is connected to a first operating LED circuit and at least one LED circuit. Further, Colby fails to disclose a driver that has an output voltage lower than an AC mains power source and a frequency higher than the AC mains power source.

Additionally, independent claim 1 has been amended to include "wherein the first operating LED circuit and the at least one additional LED circuit both have a forward voltage of 6V or greater," which is based on the language previously included in dependent claim 2. Colby fails to disclose that the first operating LED circuit and the at least one additional LED circuit both have a forward voltage of 6V or greater. Stating that "US plugs operate on 120V 60Hz," the Office Action essentially relies on the disclosure of "AC voltage" in Colby having a "frequency of 60 HZ" as disclosing the forward voltage required by claim 1. *Office Action*, p. 4; *Colby*, 4:26-31. However, Applicant respectfully submits that the disclosure of an AC voltage supplied from a wall outlet does not disclose the forward voltage of an LED. The "forward voltage" of an LED circuit, as recited in claim 1, is the minimum voltage difference required between the anode and cathode of the LEDs in the claimed circuit to allow current to flow through the LEDs. (*See, e.g., LED Tutorial – Learn the basics*, https://www.baldengineer.com/led-basics.html.) Thus, the recited forward voltage is different from the AC voltage provided by a typical wall outlet.

Accordingly, as discussed above, Colby fails to disclose each and every element of claim 1. Claim 1 is therefore allowable. Further, claims 2-4, which depend from and include the subject matter of claim 1, are also allowable for at least the same reasons as those discussed above with respect to claim 1.

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Independent Claim 6

Applicant respectfully submits that Colby fails to disclose each and every element of amended independent claim 6. Independent claim 6, as amended, recite:

> a first LED circuit and at least one additional LED circuit, ***wherein the first LED circuit and the at least one additional LED circuit are connected in parallel, and wherein each of the first LED circuit and the second LED circuit includes at least two LEDs connected in series;***
>
> . . .
>
> ***wherein the first LED circuit and the at least one additional LED circuit are mounted on an insulating substrate.***"

Colby does not disclose the above-emphasized features. Accordingly, Colby fails to disclose each and every element of claim 6. Claim 6 is therefore allowable. Further, claims 7-9, which depend from and include the subject matter of claim 6, are also allowable for at least the same reasons as those discussed above with respect to claim 6.

Independent Claim 11

Applicant respectfully submits that Colby fails to disclose each and every element of amended independent claim 11. Independent claim 11 has been amended to recite "wherein the first LED circuit, the at least one additional LED circuit, and the switch are integrated within or onto an LED package." Colby is directed to a "multi-mode bulb [that] is configured to operate in a three-way receptacle of a legacy light fixture." *Colby*, 2:25-27. As noted by Colby, a 3-way switch on the legacy receptacle determines which "hot contact" will be operational to provide voltage to the bulb. *See, e.g.,* Col. 1:18-2:3 & 2:24-33. In contradistinction, independent claim 11 makes clear that the switch is "integrated within or onto an LED package" (*e.g.*, a light bulb), not a receptacle for receiving the LED package as suggested by Colby.

Accordingly, Colby fails to disclose each and every element of claim 11. Claim 11 is therefore allowable. Further, claims 12-14, which depend from and include the subject matter of claim 11, are also allowable for at least the same reasons as those discussed above with respect to claim 11.

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Independent Claim 16

As claim 16 has been cancelled, Applicant respectfully submits that the rejection of claim 16 is moot.

For all of the foregoing reasons, Applicant respectfully requests that the rejections of claims 1-4, 6-9, 11-14, and 16 under § 102 over Colby be withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 5, 10, and 15 stand rejected under pre-AIA 35 U.S.C. § 103(a) over Colby and U.S. Patent No. 8,198,819 ("Lenk"). Claim 5 depends from and includes the subject matter of claim 1; claim 10 depends from and includes the subject matter of claim 6; and claim 15 depends from and includes the subject matter of claim 11.

The Office Action relies on Lenk as disclosing a bridge rectifier. *Office Action*, p. 6. But Lenk fails to remedy the deficiencies of Colby with respect to independent claims 1, 6, and 11 discussed above. With respect to claim 1, Lenk fails to teach or suggest "wherein the first operating LED circuit and the at least one additional LED circuit both have a forward voltage of 6V or greater." With respect to claim 6, Lenk fails to teach or suggest "wherein the first LED circuit and the at least one additional LED circuit are connected in parallel, and wherein each of the first LED circuit and the second LED circuit includes at least two LEDs connected in series," or "wherein the first LED circuit and the at least one additional LED circuit are mounted on an insulating substrate."

Further, with respect to claim 11, Lenk fails to teach or suggest "wherein the first LED circuit, the at least one additional LED circuit, and the switch are integrated within or onto an LED package." Lenk is directed to "[c]ircuits to make a 3-way LED light bulb correctly interface to a ***standard 3-way light socket***." *Lenk,* Abstract. Lenk does teach or suggest a switch that is "integrated within or onto an LED package," as required by claim 11.

Accordingly, neither Colby nor Lenk, alone or in combination, teaches or suggests the above-referenced features of claims 1, 6, or 11. Thus, claims 1, 6, and 11 are allowable over

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Colby and Lenk. Claims 5, 10, and 15 are therefore also allowable for at least the same reasons as those discussed above with respect to claims 1, 6, and 11, respectively.

For all of the foregoing reasons, Applicant respectfully requests that the rejections of claims 5, 10, and 15 under § 103 over Colby and Lenk be withdrawn.

New Claims

New independent 17 is also allowable. For example, Colby fails to disclose that "the first operating LED circuit and the at least one additional LED circuit are mounted on a heat sink," as recited by claim 17. Further, Lenk fails to remedy the deficiencies of Colby. For at least these reasons, new independent claim 17 is allowable. New dependent claims 18-21 depend from and include the subject matter of claim 17 are therefore also allowable.

Conclusion

Applicant respectfully submits that all pending claims are in proper form for allowance. Reconsideration and withdrawal of all objections and rejections are respectfully requested and a timely Notice of Allowance is solicited.

Authorization is given to charge any fees due or credit any overpayments in regards to this communication to deposit account 08-1394. If the Examiner has any questions or concerns, a telephone call to the undersigned at (949) 202-3013 is welcomed and encouraged.

Certificate of Transmission

I hereby certify that this correspondence is being electronically transmitted via EFS Web to the Commissioner for Patents, on the date stated below.

Nidia Linares

June 13, 2019
Date

Respectfully submitted,

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