

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Lynk Labs, Inc.  
Appl. No.: 17/181,802  
Conf. No.: 5141  
Filed: February 22, 2021  
Title: MULTI-VOLTAGE AND MULTI-BRIGHTNESS LED LIGHTING DEVICES  
AND METHODS OF USING SAME  
Art Unit: 2844  
Examiner: Crystal L. Hammond  
Docket No.: 3725194.00146 (14US07)

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

**RESPONSE TO NON-FINAL OFFICE ACTION**

Sir:

In response to the non-final Office Action dated April 27, 2021, please amend the above-identified patent application as follows:

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper; and

**Remarks** begin on page 6 of this paper.

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (original): An LED lighting system comprising:  
a first operating LED circuit and at least one additional LED circuit,  
at least one of the first operating LED circuit or the at least one additional LED circuit  
including at least two LEDs connected in either series or parallel, and  
the at least one additional LED circuit being configured to emit a different color light  
compared to the first operating LED circuit;  
a switch capable of at least one of:  
(a) switching a voltage level input to at least one of the first operating LED circuit or  
the at least one additional LED circuit, or  
(b) switching the at least one additional LED circuit on or off,  
wherein (a) or (b) is selectable by a user switching the switch; and  
an LED driver including an input configured to connect to an AC voltage power source,  
the LED driver configured to provide a DC voltage output to at least one of the first operating  
LED circuit or the at least one additional LED circuit,  
wherein the switch is electrically connected between the DC voltage output and at least  
one of the first operating LED circuit or the at least one additional LED circuit.

Claim 2 (original): The LED lighting system of Claim 1, wherein the switch has at least  
two positions.

Claim 3 (original): The LED lighting system of Claim 1, wherein the switching of the  
switch provides at least two different DC forward voltages to at least one of the first operating  
LED circuit or the at least one additional LED circuit.

Claim 4 (original): The LED lighting system of Claim 1, wherein the switch, the first operating LED circuit, and the at least one additional LED circuit are mounted on a single insulating substrate.

Claim 5 (original): The LED lighting system of Claim 1, wherein the switching of the switch changes light output of the LED lighting device.

Claim 6 (currently amended): The LED lighting system of Claim 1, wherein ~~the AC voltage power source includes one of at least two different AC voltage power sources~~ the LED driver is configured to cause the DC voltage output to have a lower voltage than the AC voltage power source.

Claim 7 (original): The LED lighting system of Claim 1, further comprising a driver electrically coupled to the switch and at least one of the first operating LED circuit or the at least one additional LED circuit.

Claim 8 (original): An LED lighting system comprising:  
a first operating LED circuit and at least one additional LED circuit,  
at least one of the first operating LED circuit or the at least one additional LED circuit including at least two LEDs connected in either series or parallel, and  
the at least one additional LED circuit being configured to emit a different color light compared to the first operating LED circuit;  
a switch capable of at least one of:  
(a) switching a brightness level of at least one of the first operating LED circuit or the at least one additional LED circuit, or  
(b) switching the at least one additional LED circuit on or off,  
wherein (a) or (b) is selectable by a user switching the switch; and  
an LED driver including an input configured to connect to an AC voltage power source, the LED driver configured to provide a DC voltage output to at least one of the first operating LED circuit or the at least one additional LED circuit,

wherein the switch is electrically connected between the DC voltage output and at least one of the first operating LED circuit or the at least one additional LED circuit.

Claim 9 (original): The LED lighting system of Claim 8, wherein the switch has at least two positions.

Claim 10 (original): The LED lighting system of Claim 8, wherein the switching of the switch provides at least two different DC forward voltages to at least one of the first operating LED circuit or the at least one additional LED circuit.

Claim 11 (original): The LED lighting system of Claim 8, wherein the switch, the first operating LED circuit, and the at least one additional LED circuit are mounted on a single insulating substrate.

Claim 12 (original): The LED lighting system of Claim 8, wherein the switching of the switch changes light output of the LED lighting device.

Claim 13 (currently amended): The LED lighting system of Claim 8, wherein ~~the AC voltage power source includes one of at least two different AC voltage power sources~~ the LED driver is configured to cause the DC voltage output to have a lower voltage than the AC voltage power source.

Claim 14 (original): The LED lighting system of Claim 8, further comprising a driver electrically coupled to the switch and at least one of the first operating LED circuit or the at least one additional LED circuit.

Claim 15 (original): An LED lighting system comprising:  
a first operating LED circuit and at least one additional LED circuit,  
the at least one additional LED circuit being configured to emit a different color light compared to the first operating LED circuit;  
a switch capable of at least one of:

(a) switching a voltage level input to at least one of the first operating LED circuit or the at least one additional LED circuit, or  
(b) switching the at least one additional LED circuit on or off,  
wherein (a) or (b) is selectable by switching the switch; and  
an LED driver including an input configured to connect to an AC voltage power source, the LED driver configured to provide a DC voltage output to at least one of the first operating LED circuit or the at least one additional LED circuit,  
wherein the switch is electrically connected between the DC voltage output and at least one of the first operating LED circuit or the at least one additional LED circuit.

Claim 16 (original): The LED lighting system of Claim 15, wherein the switch has at least two positions.

Claim 17 (original): The LED lighting system of Claim 15, wherein the switching of the switch provides at least two different DC forward voltages to at least one of the first operating LED circuit or the at least one additional LED circuit.

Claim 18 (original): The LED lighting system of Claim 15, wherein the switch, the first operating LED circuit, and the at least one additional LED circuit are mounted on a single insulating substrate.

Claim 19 (original): The LED lighting system of Claim 15, wherein the switching of the switch changes light output of the LED lighting device.

Claim 20 (currently amended): The LED lighting system of Claim 15, wherein ~~the AC voltage power source includes one of at least two different AC voltage power sources~~ the LED driver is configured to cause the DC voltage output to have a lower voltage than the AC voltage power source.

## REMARKS

This Response is to the non-final Office Action dated April 27, 2021. Claims 1 to 20 are currently pending and stand rejected. In this Response, Claims 6, 13, and 20 are amended. No new matter has been added by the amendments. Support for the amendments can be found in paragraphs [0043] and [0044] of Applicant's Specification. In view of the arguments provided herein, Applicant respectfully requests favorable reconsideration.

Please charge deposit account number 02-1818 for any fees associated with this Response. If any such charges are applied, please indicate Attorney Docket No. 3725194.00146 on the account statement.

### **The 35 U.S.C. § 103(a) Rejections**

The Office Action rejected Claims 1 to 20 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Publication No. 2003/0179585 to Lefebvre ("*Lefebvre*") in view of U.S. Publication No. 2004/0201988 to Allen ("*Allen*"). The Office Action at pages 2 and 3 relied on *Lefebvre* to disclose the following feature of independent Claim 1:

a switch electrically connected between a DC voltage output (of an LED driver) and at least one of a first operating LED circuit or at least one additional LED circuit.

The Office Action points to Fig. 5 from *Lefebvre* as disclosing an LED driver. For convenience, Fig. 5 from *Lefebvre* is reproduced below. Fig. 5 fails to show a switch electrically connected between a DC voltage output (of an LED driver) and at least one of a first operating LED circuit or at least one additional LED circuit. Instead, Fig. 5 shows bridge rectifiers (80, 86, 88) connected to terminals (54, 55, 56, 57) and a lighting assembly (70). Fig. 4 from *Lefebvre* shows switches (66, 68) connected to an AC power source, but do not show LED drivers, let alone switches (66, 68) electrically connected between a DC voltage output (of an LED driver) and at least one of a first operating LED circuit or at least one additional LED circuit.

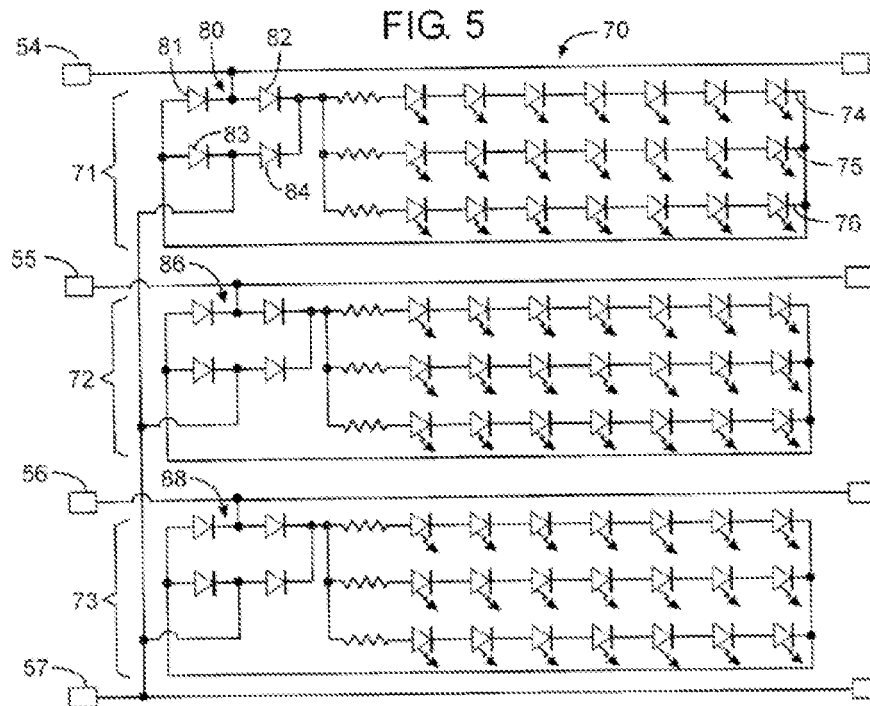


**Fig. 5 from *Lefebvre***

Even if *Lefebvre*'s circuits of Figs. 4 and 5 were combined, the switches would be placed *before* the bridge rectifiers (80, 86, 88). The switches of Claim 1 instead are located after a DC voltage output (of an LED driver), which provides for control of a DC voltage rather than attempting to control an AC voltage that is later converted into a DC voltage. Placing a switch *after* an LED driver is more efficient since the LED driver can optionally output a lower voltage, thereby reducing the amount of high voltage isolation needed for the switch. This LED driver-switch configuration enables the use of smaller and safer switches, and is safer for a user to actuate the switch while there is power being delivered through the lighting system. For at least this reason, *Lefebvre* fails to disclose a switch electrically connected between a DC voltage output (of an LED driver) and at least one of a first operating LED circuit or at least one additional LED circuit. Independent Claim 1 is accordingly patentable over *Lefebvre*.

*Allen* does not cure the deficiencies of *Lefebvre*. *Allen* discloses an LED light string without switches or LED drivers. (See *Allen*, pars. [0050] to [0055]). Applicant respectfully submits that independent Claim 1 is patentable over any combination of *Allen* and *Lefebvre*.

Claims 2 to 7 depend from Claim 1. The patentability of Claim 1 for the reasons discussed above renders moot the rejection of these dependent claims.

Independent Claims 8 and 15 include similar features as present Claim 1. For example, Claims 8 and 15 recite, in part, a switch electrically connected between a DC voltage output and at least one of a first operating LED circuit or at least one additional LED circuit. Independent Claims 8 and 15 and dependent Claims 9 to 14 and 16 to 20 are patentable for the same reasons as independent Claim 1. Applicant respectfully submits that present Claims 1 to 20 are in condition for allowance.

### **Conclusion**

An earnest endeavor has been made to place this application in condition for formal allowance, and allowance is courteously solicited. If the Examiner has any questions regarding this Response, Applicant respectfully requests that the Examiner contact the undersigned.

Respectfully submitted,

K&L Gates LLP

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