



(51) International Patent Classification:

F21S 2/00 (2016.01) F21V 25/12 (2006.01)  
F21V 19/00 (2006.01) F21V 3/04 (2006.01)  
F21V 23/00 (2015.01) F21Y 101/02 (2006.01)

(72) Inventor: JIANG, Tao; IP Dept. No.1288 Jiachuang Rd. Xiuzhou Area, Jiaxing, Zhejiang 314000 (CN).

(21) International Application Number:

PCT/CN2015/096502

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(22) International Filing Date:

5 December 2015 (05.12.2015)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

201410734425.5	5 December 2014 (05.12.2014)	CN
201510075925.7	12 February 2015 (12.02.2015)	CN
201510136796.8	27 March 2015 (27.03.2015)	CN
201510259151.3	19 May 2015 (19.05.2015)	CN
201510324394.0	12 June 2015 (12.06.2015)	CN
201510338027.6	17 June 2015 (17.06.2015)	CN
201510373492.3	26 June 2015 (26.06.2015)	CN
201510448220.5	27 July 2015 (27.07.2015)	CN
201510482944.1	7 August 2015 (07.08.2015)	CN
201510483475.5	8 August 2015 (08.08.2015)	CN
201510499512.1	14 August 2015 (14.08.2015)	CN
201510555543.4	2 September 2015 (02.09.2015)	CN
201510645134.3	8 October 2015 (08.10.2015)	CN
201510716899.1	29 October 2015 (29.10.2015)	CN
201510868263.9	2 December 2015 (02.12.2015)	CN

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(71) Applicant: JIAXING SUPER LIGHTING ELECTRIC APPLIANCE CO., LTD [CN/CN]; IP Dept. No.1288 Jiachuang Rd. Xiuzhou Area, Jiaxing, Zhejiang 314000 (CN).

(88) Date of publication of the international search report:

1 December 2016

(54) Title: LED TUBE LAMP

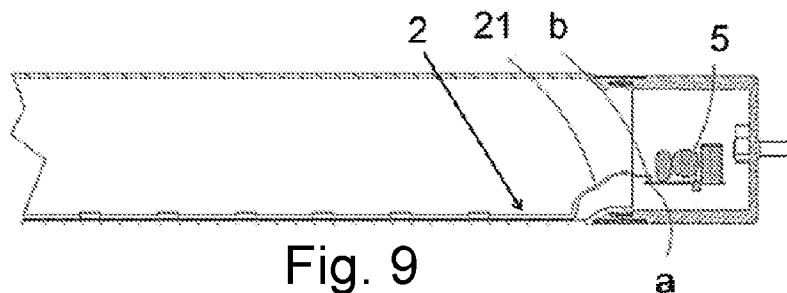


Fig. 9

(57) Abstract: An LED tube lamp includes a glass tube (1), an end cap (3) disposed at one end of the glass tube, a power supply (5) provided inside the end cap, an LED light strip (2) disposed inside the glass tube with a plurality of LED light sources (202) mounted on the LED light strip. The LED light strip has a bendable circuit sheet which is made of a metal layer structure (2a) only to electrically connect the LED light sources and the power supply. The glass tube and the end cap is secured by a highly thermal conductive silicone gel with its thermal conductivity not less than 0.7 w/m-k. The end cap includes a safety switch to prevent the risk of electrical shock during installation and improve the safety and adaption of LED tube lamp installation.



WO 2016/086901 A3

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2015/096502

**A. CLASSIFICATION OF SUBJECT MATTER**

F21S 2/00(2016.01)i; F21V 19/00(2006.01)i; F21V 23/00(2015.01)i; F21V 25/12(2006.01)i; F21V 3/04(2006.01)i; F21Y 101/02(2006.01)n

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

F21

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNABS;CNTXT;VEN;WOTXT;USTXT;EPTXT:daylight, fluorescen+, heliolamp+, luminescent+, sun+, tub+, pip+, lamp+, circuit+, fpcb?, pcb?, flex+, bend+, elastic+, bend+, length, longer, larger

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 104776332 A (JIAXING SUPER LIGHTING ELECTRIC APPLIANCE CO LTD) 15 July 2015 (2015-07-15) description, pages 3-15, and figures 1-15	1-20
PX	CN 104832813 A (JIAXING SUPER LIGHTING ELECTRIC APPLIANCE CO LTD) 12 August 2015 (2015-08-12) description, pages 3-16, and figures 1-23	1-20
PX	CN 204573639 U (JIAXING SUPER LIGHTING ELECTRIC APPLIANCE CO LTD) 19 August 2015 (2015-08-19) description, pages 3-14, and figures 1-15	1-20
PX	CN 204201535 U (ELEC-TECH INT CO LTD) 11 March 2015 (2015-03-11) description, pages 1-3, and figures 1-4	1, 17
Y	CN 203963553 U (HESHAN YINYU LIGHTING CO LTD) 26 November 2014 (2014-11-26) description, pages 2 and 3, and figures 1-10	1-20
Y	CN 201014273 Y (WANG, GUOZHONG) 30 January 2008 (2008-01-30) description, page 2, and figure 2	1-20

 Further documents are listed in the continuation of Box C. See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

10 March 2016

Date of mailing of the international search report

Name and mailing address of the ISA/CN

STATE INTELLECTUAL PROPERTY OFFICE OF THE  
P.R.CHINA  
6, Xitucheng Rd., Jimen Bridge, Haidian District, Beijing  
100088  
China

Authorized officer

CHEN, Yajuan

Facsimile No. (86-10)62019451

Telephone No. (86-10)62085755

INTERNATIONAL SEARCH REPORT

International application No.

**PCT/CN2015/096502**

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	CN 202791824 U (YE, GUOLIANG) 13 March 2013 (2013-03-13) description, pages 1 and 2, and figure 1	6, 7
<hr/>		

**INTERNATIONAL SEARCH REPORT**  
**Information on patent family members**

International application No.

**PCT/CN2015/096502**

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
CN	104776332	A	15 July 2015	HK	1206808	A1	15 January 2016
				CN	204573649	U	19 August 2015
CN	104832813	A	12 August 2015	JP	3199944	U	17 September 2015
				CN	204573684	U	19 August 2015
				JP	3199946	U	17 September 2015
				JP	3199768	U	10 September 2015
				JP	3201340	U	03 December 2015
				GB	201515232	D0	14 October 2015
				JP	3199943	U	17 September 2015
				GB	201513500	D0	16 September 2015
				GB	201513501	D0	16 September 2015
				GB	201513075	D0	09 September 2015
				GB	201513502	D0	16 September 2015
				JP	3199947	U	17 September 2015
				JP	3199833	U	10 September 2015
				CN	204693095	U	07 October 2015
				CN	105042372	A	11 November 2015
				CN	204573682	U	19 August 2015
				JP	3199835	U	10 September 2015
CN	204573639	U	19 August 2015	None			
CN	204201535	U	11 March 2015	None			
CN	203963553	U	26 November 2014	None			
CN	201014273	Y	30 January 2008	None			
CN	202791824	U	13 March 2013	HK	1172494	A2	19 April 2013