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Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) Title: LIGHTING ASSEMBLIES AND SYSTEMS

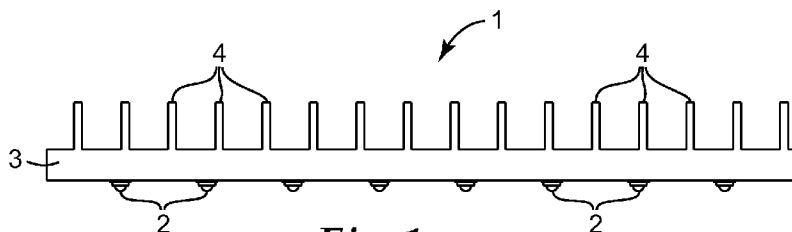


Fig. 1
Prior Art

(57) Abstract: The present disclosure relates to illumination or lighting assemblies and systems that provide illumination using LEDs. In one aspect, the present disclosure provides a lighting assembly, comprising: multiple light emitting diodes that emit light; an optical system that directs the light emitted by the light emitting diodes, the optical system positioned adjacent to light emitting diodes; and a cooling fin including a two-phase cooling system, the cooling fin positioned adjacent to the light emitting diodes such that the two-phase cooling system removes heat from the light emitting diodes. In another aspect, the present disclosure provides a lighting system including multiple lighting assemblies. The lighting assemblies and systems of the present disclosure can be used in, for example, a street light, a backlight (including, for example, a sun-coupled backlight), a wall wash light, a billboard light, a parking ramp light, a high bay light, a parking lot light, a signage lit sign (also referred to as an electric sign), static signage (including, for example, sun-coupled static signage), illuminated signage, and other lighting applications.



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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: LED, heat, cooling, two-phase

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2008-0219007 A1 (HEFFINGTON, SAMUEL N. et al.) 11 September 2008 See the abstract; paragraphs [44]-[55]; figures 2-5.	1-20
A	US 2007-0091622 A1 (HUANG, BIN-JUINE et al.) 26 April 2007 See the abstract; paragraphs [21]-[29]; figures 1-3.	1-20
A	US 6452217 B1 (WOJNAROWSKI, ROBERT J. et al.) 17 September 2002 See the abstract; column 7, line 61 - column 8, line 53; figures 14-18.	1-20
PA	US 2010-0038660 A1 (SHUJA, AHMED) 18 February 2010 See the abstract; paragraphs [72]-[77]; figure 5.	1-20

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

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"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

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INTERNATIONAL SEARCH REPORT

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US 2008-0219007 A1	11.09.2008	US 2008-0151541 A1 US 7784972 B2	26.06.2008 31.08.2010
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US 6452217 B1	17.09.2002	None	
US 2010-0038660 A1	18.02.2010	None	