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Declarations under Rule 4.17:

- as to the identity of the inventor (Rule 4.17(i))
- 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))
- of inventorship (Rule 4.17(iv))

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- with international search report (Art. 21(3))
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(54) Title: IMPROVED TWO-PHASE THERMAL MANAGEMENT SYSTEM

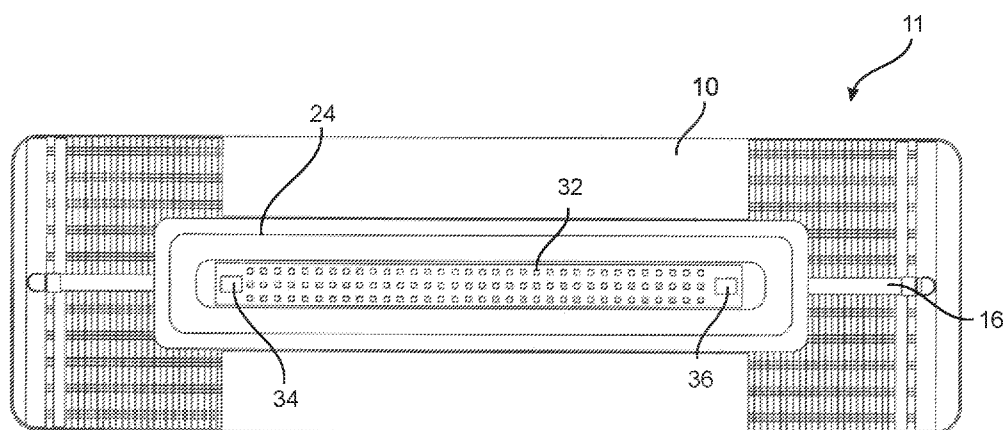


FIG. 3

(57) Abstract: An improved two-phase thermal management system is provided. The system is a passive two phase heat transfer system without the use of a mechanical pump or wick. The system may be incorporated with an LED lighting system. The system includes at least two transport paths, at least one evaporator and a condenser assembly in fluid communication. The condenser assembly has a plurality of heat transfer fins, at least one exchange tube, and at least two headers. The headers are positioned below the at least one exchange tube. A pair of thermal cut-off switches is also provided.

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INTERNATIONAL SEARCH REPORT

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PCT/IB2019/053372

A. CLASSIFICATION OF SUBJECT MATTER

INV. F28D15/02 F21V29/51 H01L23/427 H05K7/20
ADD.

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)

F28D F21V H05K H01L

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)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2015/027559 A1 (TAIAN DINGXIN COOLING MFG CO LTD [CN]) 5 March 2015 (2015-03-05) the whole document	1-10
X	----- CN 202 747 291 U (KUAN HAO CO LTD) 20 February 2013 (2013-02-20) the whole document	1-10
A	----- DE 10 2007 038909 A1 (OSRAM GMBH [DE]; WIELAND WERKE AG [DE]) 19 February 2009 (2009-02-19) paragraphs [0077] - [0081]; figure 2b	1-10
A	----- DE 10 2007 038911 A1 (OSRAM GMBH [DE]) 19 February 2009 (2009-02-19) paragraphs [0058] - [0063]	1-10



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

"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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