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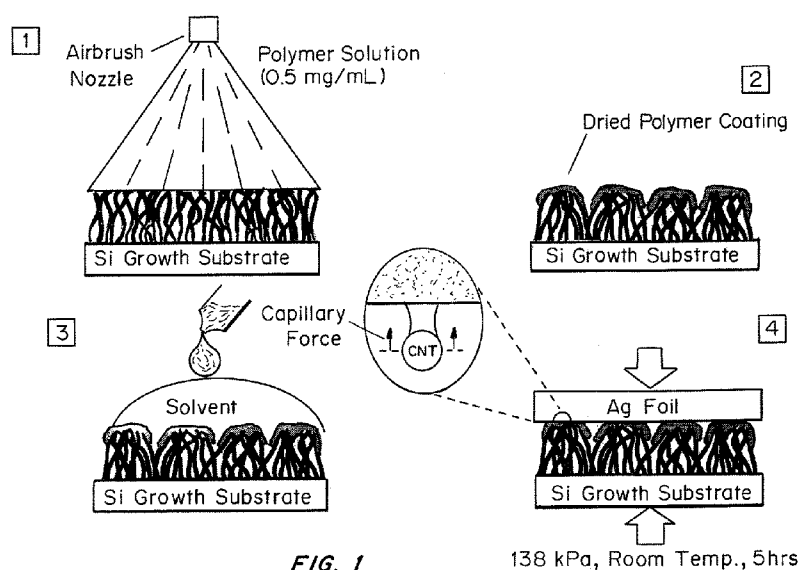
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(54) **Title:** METHODS FOR REDUCING THERMAL RESISTANCE OF CARBON NANOTUBE ARRAYS OR SHEETS**FIG. 1**

138 kPa, Room Temp., 5hrs

(57) **Abstract:** Carbon nanotube (CNT) forests or sheets coated and/or bonded at room temperature with one or more coatings were measured to produce thermal resistances that are on par with conventional metallic solders. These results were achieved by reducing the high contact resistance at CNT tips and/or sidewalls, which has encumbered the development of high-performance thermal interface materials based on CNTs. Resistances as low as $4.9 \pm 0.3 \text{ mm}^2\text{-K/W}$ were achieved for the entire polymer-coated CNT interface structure.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

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

B. FIELDS SEARCHED

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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)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2011/111112 A1 (FUJITSU LTD [JP]) 15 September 2011 (2011-09-15)	1,2,4,5, 21-23, 25,26
Y	abstract figures 1, 2 & EP 2 546 871 A1 (FUJITSU LTD [JP]) 16 January 2013 (2013-01-16) used for translation paragraph [0021] - paragraph [0040] paragraph [0066] - paragraph [0068] -----	3,6-20, 24,27,28
X	JP 2011 096832 A (FUJITSU LTD) 12 May 2011 (2011-05-12)	1,2,4,5, 21-23, 25-28
Y	abstract figures ----- -/-	3,6-20, 24



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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2011/032678 A1 (ALTMAN DAVID H [US] ET AL) 10 February 2011 (2011-02-10) figures paragraph [0009] - paragraph [0035]	1,19,21, 22,25 2-18,20, 23,24, 26-28
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