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(71) Applicant (for all designated States except US): **USA AS REPRESENTED BY THE ADMINISTRATOR OF THE NASA** [US/US]; NASA Hheadquarters, 300 E Street SW, Washington, DC 20024-3210 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LI, Jun** [US/US]; 1437 South Mary Avenue, Sunnyvale, CA 94087 (US). **MEYYAPPAN, Meyya** [US/US]; P.O. Box 121, Moffett Field, CA 94035 (US).

(74) Agents: **PADILLA, Robert** et al.; NASA Ames Research Center, Mail Stop 202A-4, Moffett Field, CA 94035-1000 (US).

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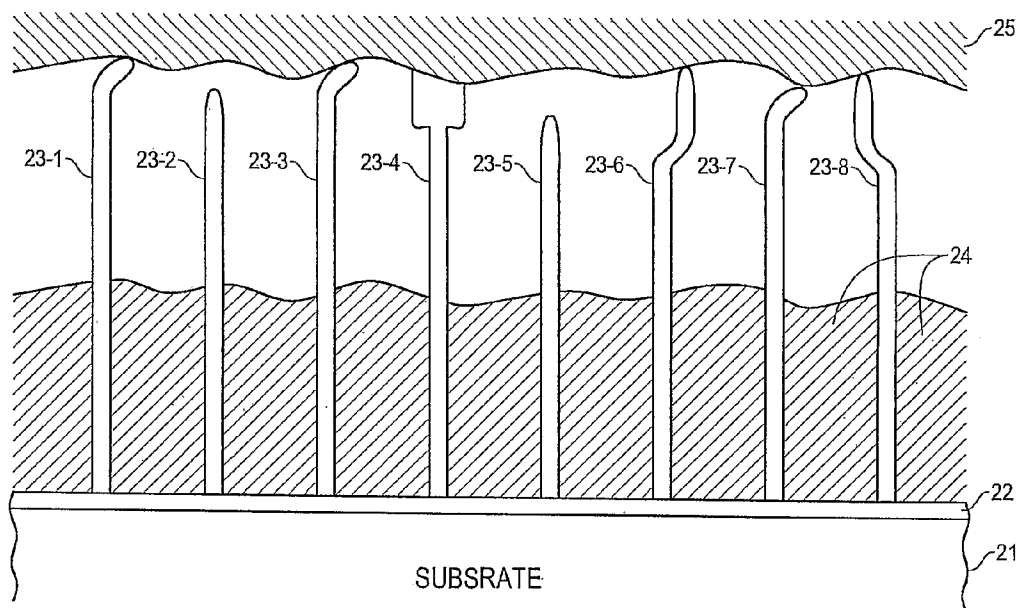
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- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

[Continued on next page]

(54) Title: NANOENGINEERED THERMAL METERIALS BASED ON CARBON NANOTUBE ARRAY COMPOSITES



(57) Abstract: A method for providing for thermal conduction using an array of carbon nanotubes (CNTs). An array of vertically oriented CNTs is grown on a substrate having high thermal conductivity, and interstitial regions between adjacent CNTs in the array are partly or wholly filled with a filler material having a high thermal conductivity so that at least one end of each CNT is exposed. The exposed end of each CNT is pressed against a surface of an object from which heat is to be removed. The CNT-filler composite adjacent to the substrate provides improved mechanical strength to anchor CNTs in place and also serves as a heat spreader to improve diffusion of heat flux from the smaller volume (CNTs) to a larger heat sink.

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