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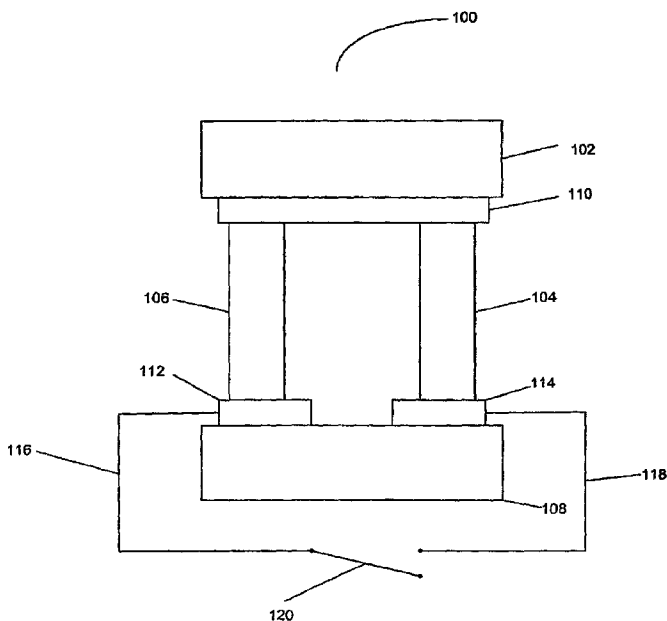
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(54) Title: THERMOELECTRIC TUNNELLING DEVICE



(57) Abstract: Methods and apparatuses for making a thermotunneling device. A method in accordance with the present invention comprises metal/semiconductor or semiconductor/semiconductor bonded material combinations that allows current flow between a hot plate and a cold plate of a thermoelectric device, and interrupting a flow of phonons between the hot plate and the cold plate of the thermoelectric device, wherein the interrupted flow is caused by a nanogap, said nanogap being formed by applying a small voltage or current between the two sides of the thermoelectric device.

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A. CLASSIFICATION OF SUBJECT MATTER INV. H01L35/00 H01J45/00				
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B. FIELDS SEARCHED				
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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	US 2004/195934 A1 (TANIELIAN MINAS H [US]) 7 October 2004 (2004-10-07) paragraph [0022] - paragraph [0024]; figures 2-9	1-9		
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X	paragraph [0035] - paragraph [0038]; figures 2-4	6		
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C.				
<input checked="" type="checkbox"/> See patent family annex.				
* Special categories of cited documents :				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document 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 </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> *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. *&* document member of the same patent family </td> </tr> </table>			*A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document 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. *&* document member of the same patent family
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
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A	SUNGTAEK JU Y ET AL: "Study of interface effects in thermoelectric microrefrigerators" JOURNAL OF APPLIED PHYSICS, AMERICAN INSTITUTE OF PHYSICS. NEW YORK, US, vol. 88, no. 7, 1 October 2000 (2000-10-01), pages 4135-4139, XP012051707 ISSN: 0021-8979	1-5,7-9
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