

1) Family number: 50788008 (US2012060885A)

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Title: DISTRIBUTED THERMOELECTRIC STRING AND INSULATING PANEL

Abstract: Inexpensive, lightweight, flexible heating and cooling panels with highly distributed thermoelectric elements are provided. A thermoelectric "string" is described that may be woven or assembled into a variety of insulating panels such as seat cushions, mattresses, pillows, blankets, ceiling tiles, office partitions, under-desk panels, electronic enclosures, building walls, refrigerator walls, and heat conversion panels. The string contains spaced thermoelectric elements which are thermally and electrically connected to lengths of braided, meshed, stranded, foamed, or otherwise expandable and compressible conductor. The elements and a portion of compacted conductor are mounted within the insulating panel. On the outsides of the panel, the conductor is expanded to provide a very large surface area of contact with air or other medium for heat absorption on the cold side and for heat dissipation on the hot side.

Classifications:

International (IPC 8-9): A41D13/002 A41D13/005 A42B3/04 A47C21/04 A47C27/00 A47C7/74 A47G9/06 A61G1/04 A61G5/10 B60N2/56 F16L59/00 F25B21/00 F25B21/02 F25B21/04 H01C1/16 H01C17/00 H01C7/00 H01L35/00 H01L35/04 H01L35/28 H01L35/30 H01L35/32 H01L35/34 H01L37/00 H02N11/00 H02N6/00 H02S10/30 H05B3/00 H05B3/34 (Advanced/Invention); F25B21/04 (Advanced/Non-invention); H01L35/00 (Core/Invention); H01L (Subclass/Invention)

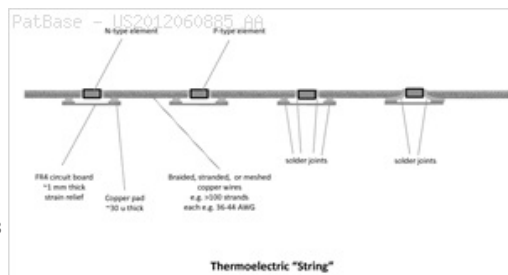
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European: H01C1/12 H01C1/14 H01C1/16 H01C13/02 H01C7/00F H01L35/32

US: 136/200 136/200S 136/201 136/201S 136/204 136/206 136/212 136/212S 136/225 136/225S 219/201 219/201S 264/272.21 264/272.210S 29/610.1 29/610.100S 5/421 5/421S 5/423 5/423P 62/3.3 62/3.300S 62/3.5 62/3.6 62/3.61 62/3.7

JP F-Term: 3B096 3B096/AC13 3B096/AC14 5F091 5H660 3B084 3B084/JA00 3B084/JE02 3B087 3B087/DE10 3B102 3L094

JP F-Index: A47C27/00/F H01L35/30 H01L35/32/A H02N11/00/A A47C7/74/A A47G9/06/D B60N2/56 F25B21/02/Z H01L35/28/Z



Family:

Publication number	Publication date	Application number	Application date
AU2011302303 AA	20120322	AU20110302303	20110912
AU2011302303 BB	20130919	AU20110302303	20110912
AU2013224678 AA	20130926	AU20130224678	20130904
BR112013005978 A2	20160607	BR20131105978	20110912
BR112014000222 A2	20170221	BR20141100222	20120703
CA2810857 AA	20130307	CA20112810857	20110912
CN103098249 A	20130508	CN201180043196	20110912
CN103098249 B	20161012	CN201180043196	20110912
CN103635121 A	20140312	CN201280033604	20120703
CN103635121 B	20161012	CN201280033604	20120703
EP2617072 A1	20130724	EP20110825739	20110912
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EP2729039 A1	20140514	EP20120807127	20120703
EP2729039 A4	20150506	EP20120807127	20120703
IN00466MN2013 A	20140509	IN2013MN00466	20130311
IN02426MN2013 A	20141121	IN2013MN02426	20131223
JP2013543255 T2	20131128	JP20130529226T	20110912
JP2014529358 T2	20141106	JP20140519269T	20120703
JP5956444 B2	20160727	JP20130529226T	20110912
JP6341856 B2	20180613	JP20140519269T	20120703
KR101640291 B1	20160715	KR20137002899	20110912
KR20130106809 A	20130930	KR20137002899	20110912
KR20140045408 A	20140416	KR20137033306	20120703
MX2013002569 A1	20130403	MX20130002569	20110912
PH2014502587 A	20150608	PH20140502587	20141120
TH128235 A	20131015	TH20131001204	20110912
US2012060885 AA	20120315	US20110101015	20110504
US2012198616 AA	20120809	US20110394288	20110912
US2013008181 AA	20130110	US20120541530	20120703
US2015219368 AA	20150806	US20140473882	20140829
US2017159980 AA	20170608	US20170426733	20170207
US8969703 BB	20150303	US20110101015	20110504
US9596944 BB	20170321	US20120541530	20120703
US9989282 BB	20180605	US20140473882	20140829
WO12037031 A1	20120322	WO2011US51227	20110912
WO13006640 A1	20130110	WO2012US45443	20120703

ZA201301681 A 20140827 ZA20130001681 20130305

Priority:

US20100403217P 20100913 US20100417380P 20101126 US20110433489P 20110117
US20110470039P 20110331 US20110101015 20110504 US20110504784P 20110706
AU20110302303 20110912 US20110394288 20110912 WO2011US51227 20110912
US20110564404P 20111129 US20120587729P 20120118 US20120584729P 20120118
US20120541530 20120703 WO2012US45443 20120703 AU20130224678 20130904
US20140473882 20140829 US20170426733 20170207

Probable Assignee: TEMPRONICS INC

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Inventor(s): (std): FRANKLIN JOHN L ; WOOD STEVE ; MAKANSI TAREK ; EVERS MARK N ; FRANKLIN JOHN ; BERMAN MICHAEL ; WOOD STEVEN ; BERMAN MICHAEL J ; EVERS MARK NELSEN ; FRANKLIN JOHN LATIMER ; TAREK MAKANSI ; JOHN FRANKLIN ; MICHAEL BERMAN ; STEVE WOOD ; STEVEN WOOD ; JOHN LATIMER FRANKLIN ; MICHAEL BERNAN ; MARK NELSEN EVERS

Inventor(s): MARK N EVERS

Agent(s): DARK IP; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; PRINZ AND PARTNER; HAYES SOLOWAY PC; WILSON SONSINI GOODRICH AND ROSATI; SOLOWAY NORMAN P ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

2) Family number: 29214022 (US2003194052A)

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Title: METHODS FOR IDENTIFICATION AND VERIFICATION

Abstract: Apparatus and methods in which one or more elemental taggants that are intrinsically located-or extrinsically placed-in an object are detected by x-ray fluorescence analysis to identify or track/trace the object or its point of manufacture, as well as to establish the origin of objects and their authenticity. The taggant is manufactured as part of the object or the taggant is placed into a coating, packaging, label, or otherwise embedded within or onto the object for the purpose of later verifying the presence or absence of these elements by x-ray fluorescence to determine the unique elemental composition of the taggant within the respective object. The apparatus and methods can be used in combination with, in place or, or in addition to current anti-counterfeiting technologies. By using x-ray fluorescence analysis, the apparatus and methods are simple and easy to use, as well as provide detection by a non line-of-sight method to track and trace objects, as well as to establish the origin of objects, their point of manufacture, and their authenticity.

Classifications:

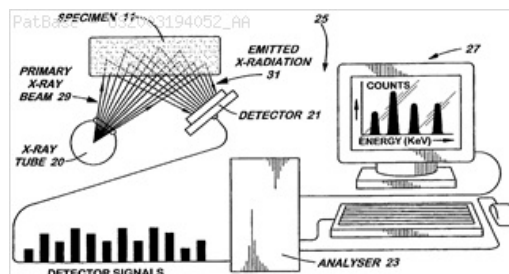
International (IPC 8-9): G01N23/223 (Advanced/Invention); G01N23/22 (Core/Invention)

International (IPC 1-7): G01N23/223 G01T1/36

CPC: G01N23/223 G01N2223/076

European: G01N23/223

US: 162/57 378/45 378/45P



Family:

Publication number	Publication date	Application number	Application date
AU2003302249 AA	20040729	AU20030302249	20031211
AU2003302249 AH	20040729	AU20030302249	20031211
US2003194052 AA	20031016	US20020122079	20020412
US2003194053 AA	20031016	US20020321873	20021216
US6850592 BB	20050201	US20020321873	20021216
WO04061441 A1	20040722	WO2003US39486	20031211

Priority:

US20020122079 20020412 US20020321873 20021216 WO2003US39486 20031211

Probable Assignee: KEYMASTER TECHNOLOGIES INC

Assignee(s): (std): KAISER BRUCE J ; KEYMASTER TECHNOLOGIES INC ; KUHLMAN ROBERT D ; NASA ; PRICE L STEPHEN ; SHANNON ROBERT ; WHEELER KEN ; SCHRAMM HARRY FRED ; HOWE THERESE

Assignee(s): KAISER BRUCE ; SCHRAMM HARRY F ; NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Inventor(s): (std): HOWE THERESE ; KAISER BRUCE ; KAISER BRUCE J ; KUHLMAN ROBERT D ; PRICE L STEPHEN ; SCHRAMM HARRY F ; SCHRAMM HARRY FRED ; SHANNON ROBERT ; WHEELER KEN

Inventor(s): BRUCE J KAISER ; HARRY FRED SCHRAMM ; THERESE HOWE ; ROBERT D KUHLMAN ; ROBERT SHANNON ; KEN WHEELER

Agent(s): KENNETH E; KIRTON AND MCCONKIE

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: OVERLAY MATTRESS

Abstract: An overlay mattress has a plurality of internal elevating means, such as inflatable bladders, for raising selected portions of the mattress to achieve a wide range of patient positions. A fluid such as air may be supplied from a conventional surgical room air supply, a compressed canister, or a compressor to inflate the bladders. A fluid distribution system controls the flow of fluid to desired bladders. The overlay mattress may be used in conjunction with conventional surgical tables and mattresses. A thermal control means is also included in the overlay mattress to regulate a patient's body temperature. A pressure shifting means is also included to reduce the risk of bedsores formation.

Classifications:

International (IPC 8-9): A47C27/10 (Advanced/Invention);
A47C27/10 (Core/Invention)

International (IPC 1-7): A47C27/10 A47C27/14

CPC: A61G7/001 A61G7/05769 A61G7/05776 A61G2210/70 A61G2210/90

European: A61G7/00D A61G7/057K A61G7/057K1 K61G210/70
K61G210/90

US: 5/71 5/710 5/710S 5/713 5/713P 5/715

PatBase - US2003159219_AA

Patent Application Publication Aug. 28, 2003 Sheet 1 of 14 US 2003/0159219 A1



Figure 1

Family:

Publication number	Publication date	Application number	Application date
US2003159219 AA	20030828	US20020080126	20020222
US6859967 BB	20050301	US20020080126	20020222

Priority:

US20020080126 20020222

Probable Assignee: NIMED INC**Assignee(s):** BAUCUM III RALPH W ; BAUCUM R W ; HARRISON SAMUEL W ; NIMED INC ; QUICK PATRICK ; QUICK SR PATRICK**Inventor(s):** (std): BAUCUM III RALPH W ; BAUCUM R W ; HARRISON SAMUEL W ; QUICK PATRICK ; QUICK SR PATRICK**Agent(s):** MARK J**Title:** COOLING SYSTEM

Abstract: A cooling system for cooling a person in a supine position as part of a clinical treatment includes an air blower, a heat exchanger, an inflatable mattress and a cooling jacket or overlay. Air from the blower is cooled by contact with the heat exchanger, passed through the jacket or overlay and through the mattress in order to rapidly cool the person so as to achieve mild hypothermia.

Classifications:

International (IPC 8-9): A47C A47C21/04 A47C27/00 A61F A61F7/00
A61F7/10 (Advanced/Invention);

A61F7/00 (Advanced/Non-invention);

A47C21/00 A47C27/00 A61F7/00 (Core/Invention)

International (IPC 1-7): A47C21/04 A47C27/00 A47C27/08 A47C27/08
A47C27/10 A61F7/00 A61F7/00 A61F7/10 A61F7/12

CPC: Y10S5/941 A47C21/044 A61F7/0097 A61F7/10 A61F2007/0064

A61F2007/0086 A61F2007/0091 A61F2007/0095

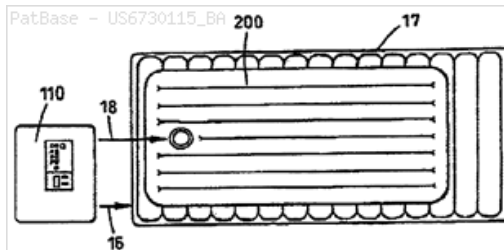
European: A47C21/04B2 A61F7/00U A61F7/10 K61F7/00D2A K61F7/00G
K61F7/00N K61F7/00T

US: 5/421 5/423 5/706 5/941 607/104 607/108

JP F-Term: 3B096 4C099 4C099/AA02 4C099/CA12 4C099/EA02

4C099/EA05 4C099/GA21 4C099/JA01 4C099/PA02 4C099/PA03 4C099/PA04 4C099/PA06 4C099/PA08 4C099/PA09

JP F-Index: A47C27/00/F A61F7/00/331/E A61F7/10/317

**Family:**

Publication number	Publication date	Application number	Application date
AT262306 E	20040415	AT19970923176T	19970516
CA2254999 AA	19981116	CA19972254999	19970516
CA2254999 C	20020423	CA19972254999	19970516
DE69728261 D1	20040429	DE19976028261	19970516
DE69728261 T2	20050303	DE19976028261T	19970516
DK0898473 T3	20040726	DK19970923176T	19970516
EP0898473 A1	19990303	EP19970923176	19970516
EP0898473 B1	20040324	EP19970923176	19970516
GB2313549 A1	19971203	GB19970010138	19970516
GB2313549 B2	20000719	GB19970010138	19970516
GB9610233 A0	19960724	GB19960010233	19960516
GB9710138 A0	19970709	GB19970010138	19970516
HK1019300 A1	20041224	HK19990103817	19990902
HK1019300 B	20041224	HK19990103817	19990902
JP2000510724 T2	20000822	JP19970540677T	19970516
JP4255987 B2	20090422	JP19970540677T	19970516
PT898473 T	20040730	PT19970923176T	19970516
US6730115 BA	20040504	US19980193071	19981116
WO9742919 A1	19971120	WO1997GB01344	19970516

Priority:

GB19960010233 19960516 WO1997GB01344 19970516

Probable Assignee: KCI LICENSING INC

Assignee(s): (std): KCI MEDICAL LTD ; KCI LICENSING INC ; HEATON KEITH PATRICK

Assignee(s): HUNTLEIGH TECHNOLOGY LTD ; BANK OF AMERICA NA ; BANK OF AMERICA NA COLLATERAL AGENT AS ; CITIBANK NA ; CITIBANK NA ADMINISTRATIVE AGENT AS ; KCI MEDICAL LIMITED ; KINETIC CONCEPTS INC ; KCI USA INC ; KCI HOLDING CO INC ; KCI INT ; KCI INT INC ; LIFECELL CORP ; KCI MEDICAL LTD WITNEY ; KCI MEDICAL TWO RIVERS STATION LANE WITNEY OXFORDSHIRE OX8 6BH LTD ; MORGAN STANLEY AND CO INC ; WILMINGTON TRUST NATIONAL ASSOCIATION COLLATERAL A ; WILMINGTON TRUST NATIONAL ASSOCIATION COLLATERAL AGENT AS ; TECHNIMOTION LLC

Inventor(s): (std): HEATON KEITH PATRICK ; HEATON PATRICK

Inventor(s): KEITH PATRICK HEATON

Agent(s): MOFFAT AND CO; HONG KONG PATENT REGISTRATIONS CO 4005 TOWER TWO LIPPO CENTRE 89

Designated states: AT BE CA CH DE DK ES FI FR GB GR IE IT JP LI LU MC NL PT SE US

5) Family number: 62328373 (US2016133817A)

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Title: FUNCTIONAL AND DURABLE THERMOELECTRIC DEVICES AND SYSTEMS

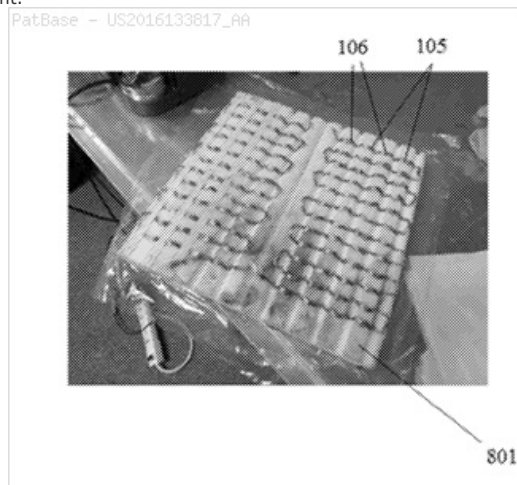
Abstract: The present disclosure provides a thermoelectric device comprising a panel comprising an electrically and thermally insulating material, and a thermoelectric string comprising a plurality of thermoelectric elements mounted on a strain relief element within the panel. The thermoelectric elements may comprise an n-type thermoelectric element and a p-type thermoelectric element electrically coupled to one another in series. The thermoelectric string may be (i) compacted in cross section inside the panel and (ii) expanded in cross section outside the panel. The strain relief element may permit the thermoelectric string to be movable in proximity to the strain relief element.

Classifications:

International (IPC 8-9): A47C21/04 A47C7/74 F25B21/04 H01L35/08 H01L35/32 (Advanced/Invention)

CPC: H01L35/325 H01L35/08 H01L35/32

US: 136/212 438/54



Family:

Publication number	Publication date	Application number	Application date
CN107110572 A	20170829	CN201580072356	20151106
EP3215796 A1	20170913	EP20150858052	20151106
EP3215796 A4	20180822	EP20150858052	20151106
US2016133817 AA	20160512	US20150934757	20151106
WO16073939 A1	20160512	WO2015US59598	20151106

Priority:

US20140076042P 20141106
US20150191207P 20150710

US20150133215P 20150313
US20150934757 20151106

US20150172751P 20150608
WO2015US59598 20151106

Probable Assignee: TEMPRONICS INC**Assignee(s):** (std): TEMPRONICS INC**Inventor(s):** (std): GEISLER KEVIN ; SATO MICHAEL ; FORBES KEVIN ; FOGOROS ROBERT ; DOMINGUEZ JOSE SANTOS ; MAKANSI TAREK ; FRANKLIN JOHN LATIMER ; MYERS RICHARD**Agent(s):** D YOUNG AND CO LLP; ALEMOZAFAR ALI R ET AL**Designated states:** AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW**6) Family number: 22740448 (US2938356A)**

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Title: METHOD AND MEANS FOR CONTROLLING TEMPERATURES ADJACENT LIVING BODIES

Abstract: (Claim 1) 1. An article of manufacture suitable for controlling the temperature adjacent a living body and adapted to be placed in contact therewith, comprising a supporting flexible material of low thermal conductivity and a series of at least semi-conductive segments of a first type and of a second type embedded in said material, each of said segments of said first type being connected in series-circuit relationship between two of said segments of said second type, each of said segments of said second type being connected in series-circuit relationship between two of said segments of said first type, said series of segments being adapted for passage of direct current therethrough, and the respective junctions between said segments of said first type and said segments of said second type being so arranged that said current may pass from each segment of said first type to a segment of said second type near one surface of said material and from each segment of said second type to a segment of said first type near the other surface of said material, the junctions adjacent said one surface being heat-absorbing and those adjacent said other surface being heat-generating when a direct electric current is passed through said series of segments.

Classifications:**International (IPC 8-9):** A61F7/00 A61F7/08

A61F7/10 (Advanced/Invention);

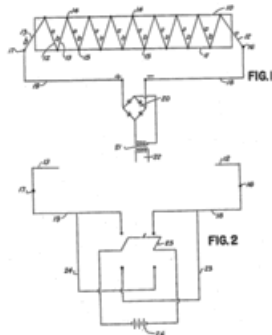
A61F7/00 (Advanced/Non-invention);

A61F7/00 A61F7/08 (Core/Invention)

International (IPC 1-7): G01K5/22**CPC:** A61F7/007 A61F7/10 A61F2007/0075 A61F2007/0086**European:** A61F7/00E A61F7/04E A61F7/10 K61F7/00E2 K61F7/00G**US:** 136/203 165/46 297/180.12 5/421 607/96 62/261 62/3.5

PatBase - US2938356_A

May 31, 1960
Filed April 12, 1959
H. O. McMAHON
METHOD AND MEANS FOR CONTROLLING TEMPERATURES
ADJACENT LIVING BODIES
2,938,356
2 Sheets-Sheet 1



INVENTOR
Howard O. McMahon
BY
Arthur D. Little, Inc.
ATTORNEY

Family:

Publication number	Publication date	Application number	Application date
US2938356 A	19600531	US19560577714	19560412

Priority:

US19560577714 19560412

Probable Assignee: LITTLE INC A**Assignee(s):** (std): LITTLE INC A**Assignee(s):** ARTHUR D LITTLE INC**Inventor(s):** (std): MCMAHON HOWARD O**7) Family number: 68719510 (US2018057360A)**

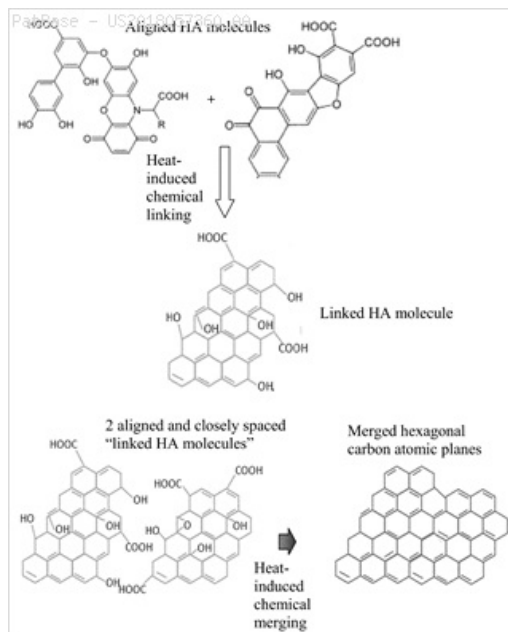
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Title: PROCESS FOR PRODUCING HUMIC ACID-DERIVED CONDUCTIVE FOAMS

Abstract: A process for producing a humic acid (HA)-derived foam, comprising: (a) preparing a HA dispersion having multiple HA molecules and an optional blowing agent dispersed in a liquid medium having a blowing agent-to-HA weight ratio from 0/1.0 to 1.0/1.0; (b) dispensing and depositing the HA dispersion onto a surface of a supporting substrate to form a wet HA layer; (c) partially or completely removing liquid medium from the wet HA layer to form a dried HA layer; and (d) heat treating the dried HA layer at a first heat treatment temperature from 80 degrees centigrade to 3,200 degrees centigrade at a desired heating rate sufficient to induce volatile gas molecules from the non-carbon elements or to activate the blowing agent for producing the HA-derived foam.

Classifications:

International (IPC 8-9): B01D17/02 B01J20/24 B01J20/28 B05D1/36 B05D1/40 B32B5/18 B82Y40/00 C01B31/04 C01B32/182 C01B32/184 C02F1/28 C04B35/52 C04B35/622 C04B38/00 C04B38/02 C08G101/00 C08H7/00 C08J9/10 C09K3/32 C09K5/14 H01B1/12 H05K7/20 (Advanced/Invention); C08G101/00 (Advanced/Non-invention)
CPC: C08J9/103 C08J2203/04 C01P2006/12 C01P2006/32 C01P2006/40 C01P2006/10 C08J9/02 C08J2205/042 C08J2205/044 C08J2399/00 C01B32/184 C01B32/19 C02F1/286 C09K3/32 B01J20/24 B01J20/28045 B01J20/28011 C02F2101/32 C09K5/14 H01B1/128 B01D17/0202 B01J20/28083 C02F2303/16 B32B5/18 C01B32/05 H01B1/00 C02F1/40 C02F2103/16 H01B1/04 C08H6/00 B82Y30/00 B82Y40/00 C08L97/002 C04B38/0051 C04B35/52 C04B35/62218 C04B38/0067 C04B38/02 H05K7/2039 C04B2235/48 C04B2235/96



Family:

Publication number	Publication date	Application number	Application date
CN109803820 A	20190524	CN201780059527	20170724
KR20190042686 A	20190424	KR20197008946	20170724
US2018057360 AA	20180301	US20160251849	20160830
US2018057367 AA	20180301	US20160251841	20160830
WO18044427 A1	20180308	WO2017US43494	20170724

Priority:

US20160251841 20160830 US20160251849 20160830 WO2017US43494 20170724

Probable Assignee: NANOTEK INSTRUMENTS INC

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Inventor(s): (std): JANG BOR Z ; ZHAMU ARUNA

Agent(s): RUTISER CLAIRE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

8) Family number: 28217513 (US2002094058A)

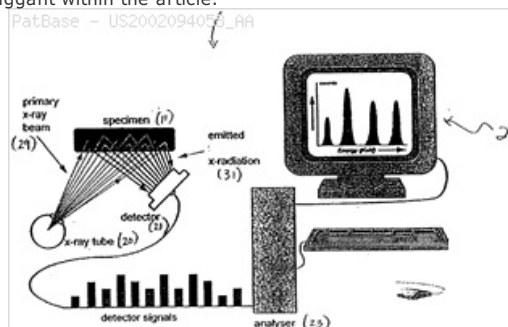
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Title: METHODS FOR IDENTIFICATION AND VERIFICATION

Abstract: An apparatus and method in which one or more taggants that are intrinsically located-or extrinsically placed-in an article or product, such as plastic. The taggants are detected by x-ray fluorescence analysis to identify or verify the article or its point of manufacture. The taggants are manufactured as part of the article or the taggant is placed into a coating, label, or otherwise embedded within the article for the purpose of later verifying the presence or absence of these elements by x-ray fluorescence, thus determining the unique elemental composition of the taggant within the article.

Classifications:

International (IPC 8-9): G01N23/223 G06K7/10 (Advanced/Invention); G01N23/22 G06K7/10 (Core/Invention)
International (IPC 1-7): G01N23/223 G01T1/36 H05G
CPC: G01N23/223 G01N2223/076 G06K7/10
European: G01N23/223 G06K7/10
US: 378/44 378/45 378/45P 378/48 378/48S 378/49 378/49P



Family:

Publication number	Publication date	Application number	Application date
AU2002254004 AA	20020912	AU20020254004	20020116
AU2003302325 AA	20040623	AU20030302325	20031128
AU2003302325 AH	20040623	AU20030302325	20031128
EP1386144 A1	20040204	EP20020723211	20020116
EP1386144 A4	20050921	EP20020723211	20020116
EP1570258 A2	20050907	EP20030810881	20031128
EP1570258 A4	20071121	EP20030810881	20031128
US2002094058 AA	20020718	US20010761409	20010116
US2002097832 AA	20020725	US20010766542	20010119
US2002097833 AA	20020725	US20010006782	20011205
US2003133537 AA	20030717	US20020307191	20021129
US2004022355 AA	20040205	US20020306923	20021129
US6501825 BB	20021231	US20010766542	20010119
US6909770 BB	20050621	US20020307191	20021129
WO02068945 A1	20020906	WO2002US05219	20020116
WO04052059 A2	20040617	WO2003US38381	20031128
WO04052059 A3	20040910	WO2003US38381	20031128

Priority:

US20010761409 20010116 US20010766542 20010119 US20010006782 20011205
WO2002US05219 20020116 US20020306923 20021129 US20020307191 20021129
US20020307191 20021129 WO2003US38381 20031128

Probable Assignee: KEYMASTER TECHNOLOGIES INC

Assignee(s): (std): KAISER BRUCE ; KAISER BRUCE J ; KENNING DON ; KEYMASTER TECHNOLOGIES INC ; KUHLMAN ROBERT D ; MEYER GERHARD A ; SHANNON ROBERT ; PRICE STEPHEN L ; SCHOEPLIN DAN ; SCHRAMM FRED ; NASA ; SCHRAMM HARRY FRED ; NATIONAL AERONAUTICS AND SPACE ADMINISTRATION ; WATSON DAVID J

Assignee(s): UNITED STATES NATIONAL AERONAUTICS AND SPACE ADMINISTRATION US GOV AS ; PRICE L STEPHEN ; UNITED STATES NATIONAL AERONAUTICS AND SPACE ; KOBYLTCHAK VASSILI

Inventor(s): (std): BRUCE J KAISER ; HARRY FRED SCHRAMM ; KAISER BRUCE ; KAISER BRUCE J ; KENNING DON ; KUHLMAN ROBERT D ; MEYER GERHARD A ; PRICE L STEPHEN ; PRICE STEPHEN L ; SCHOEPLIN DAN ; SCHRAMM FRED ; SHANNON ROBERT ; WATSON DAVID J ; SCHRAMM HARRY FRED ; KOBYLTCHAK VASSILI

Agent(s): KIRTON AND MCCONKIE; HORTON KENNETH E; KENNETH E

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

9) Family number: 61806582 (WO16030774A1)

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Title: DEVICE FOR A CLIMATE CONTROLLED AMBIENCE AND METHOD THEREOF

Abstract: The present invention relates to a device for providing a climate controlled ambience around the user and method thereof. More particularly, the present invention relates to a climate controlled bed sheet and method thereof to provide comfortable ambience to the user. Further, the present invention discloses economically advantageous methods for achieving the convenient climate in adverse environmental conditions like hot, cold or humid weather.

Classifications:

International (IPC 8-9): A47C21/04 A61G10/02 (Advanced/Invention)

CPC: A47C21/048 A47C21/044

PatBase - WO16030774_A1

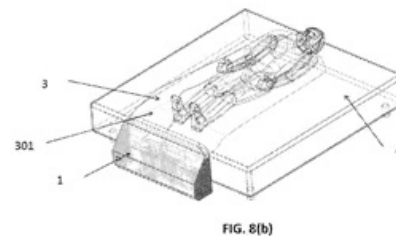


FIG. 8(b)

Family:

Publication number	Publication date	Application number	Application date
IN02406DE2014 A	20160831	IN2014DE02406	20140823
WO16030774 A1	20160303	WO2015IB53812	20150523

Priority:

IN2014DE02406 20140823

Probable Assignee: PADMINI VNA MECHATRONICS PVT LTD

Assignee(s): (std): PADMINI VNA MECHATRONICS PVT LTD

Inventor(s): (std): BHANDARI KABIR ; GOGOANA RADU

Inventor(s): RADU GOGOANA ; KABIR BHANDARI

Agent(s): AMBASTHA LALIT ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

10) Family number: 61912695 (US2017299207A)

© PatBase

Title: LOCALISED PERSONAL AIR CONDITIONING SYSTEM

Abstract: An air conditioner system including a sleeping enclosure defining a sleeping space into which conditioned air is adapted to be delivered from one end or side of the sleeping space in a manner which maximizes contact between conditioned air and a person or persons in the sleeping space, the sleeping space including an upper air pervious section; and a lower relatively air impervious section adapted to surround a bed in the sleeping space and configured to minimize passage of the conditioned air from the sleeping space through the pervious section or other leakage paths; and an air conditioner unit for generating a conditioned air flow, wherein the impervious section extends to a height above the sleeping surface of the bed at the end or side of the bed opposed to said end or side sufficient to contain the conditioned air as it moves towards and returns from the opposite end or side of the sleeping space, and wherein the impervious section extends to a sufficiently increased height above the sleeping surface at the opposite end or side to allow the direction of air flow to reverse towards said one end or side without substantial loss of conditioned air through the pervious section.

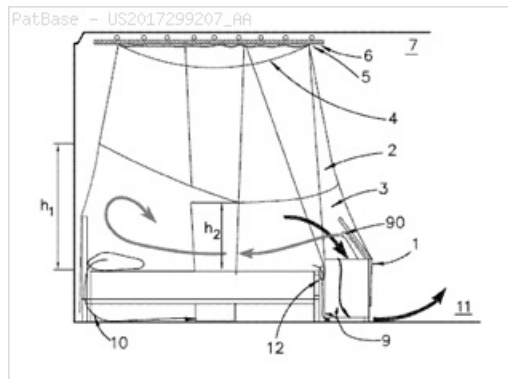
Classifications:

International (IPC 8-9): A47C21/04 A47C29/00 E04H E04H15/10 F24F F24F1/02 F24F1/50 F24F1/52 F24F13/06 F24F13/08 F24F5/00 F25D F25D3/04 (Advanced/Invention)

International (IPC 1-7): E04H15/10 F24F13/08 F25D3/04

CPC: F24F13/0604 F24F5/001 F24F13/081 A47C21/044 A47C29/006 F24F5/0096 F24F2013/088 F24F1/02 F24F1/022

US: 62/261



Family:

Publication number	Publication date	Application number	Application date
AU2015318813 AA	20170413	AU20150318813	20150901
BR112017005652 A2	20171212	BR20171105652	20150901
CN107003017 A	20170801	CN201580062517	20150901
EP3194856 A1	20170726	EP20150841259	20150901
EP3194856 A4	20180502	EP20150841259	20150901
HK1235852 A1	20180316	HK20170109629	20170922
ID201802751 A	20180316	ID2017P0002268	20150901
IN201737009564 A	20170825	IN201737009564	20170320
US2017299207 AA	20171019	US20150512459	20150901
WO16041000 A1	20160324	WO2015AU50514	20150901

Priority:

AU20140903758 20140919 AU20150901307 20150413 WO2015AU50514 20150901

Probable Assignee: CLOSE COMFORT PTY LTD

Assignee(s): (std): CLOSE COMFORT PTY LTD

Inventor(s): (std): TREVELYAN JAMES ; JAMES TREVELYAN

Agent(s): DAVIES COLLISON CAVE PTY LTD; DE VRIES AND METMAN; CHINA PATENT AGENT HK LTD; PRUDENCE JAHJA SH LLM; DAVIES COLLISON CAVE

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

11) Family number: 15875706 (WO03024380A1)

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Title: MATTRESS OR LIKE BODY SUPPORTING DEVICE

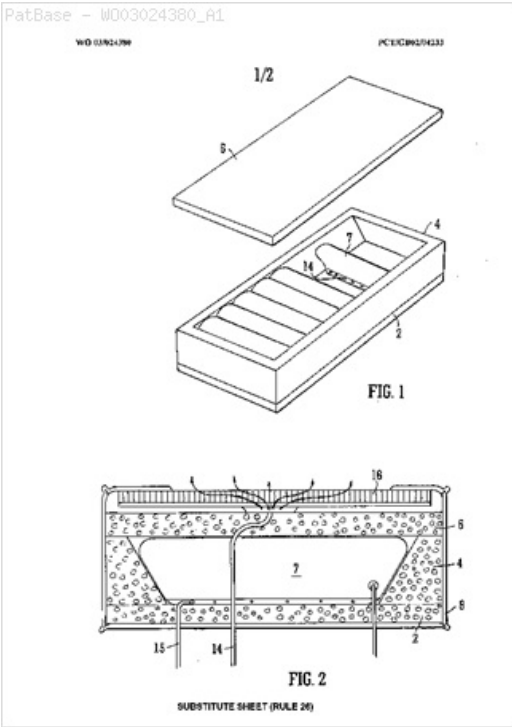
Abstract: The mattress or like body supporting device comprises an upper cover (6), a base (2) and wall members (4). Intermediate the cover and base there is provided a plurality of inflatable cells or chambers (7), each inflatable chamber (7) being connectable to a source of pressurised fluid or a pump, control means (20) being provided for selectively inflating and/or deflating two or more of the inflatable chambers independently of one another.

Classifications:

International (IPC 8-9): A61G7/057 (Advanced/Invention); A61G7/057 (Core/Invention)

International (IPC 1-7): A61G7/057

CPC: A61G2203/46 A61G2210/70 A61G7/05769 A61G2203/34 A61G7/05792



Family:

Publication number	Publication date	Application number	Application date
GB200122764 A0	20011114	GB20010022764	20010921
GB200406175 A0	20040421	GB20040006175	20020918
GB2395119 A1	20040519	GB20040006175	20020918
WO03024380 A1	20030327	WO2002GB04233	20020918

Priority:

GB20010022764 20010921 WO2002GB04233 20020918

Probable Assignee: CALDWELL KEVIN M

Assignee(s): (std): CALDWELL KENNETH ; CALDWELL KEVIN M ; CALDWELL KEVIN MICHAEL ; SIDHIL LTD

Assignee(s): SIDHIL LIMITED

Inventor(s): (std): CALDWELL KEVIN MICHAEL ; CALDWELL KENNETH

Inventor(s): KEVIN MICHAEL CALDWELL ; KENNETH CALDWELL

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

12) Family number: 28138848 (US2001045104A)

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Title: Ergonomic systems and methods providing intelligent adaptive surfaces and temperature control

Abstract: Ergonomic systems which provide medical therapy, comfort and enhanced function are provided. Surfaces are provided with adjustable contour, transient force damping and temperature. The technologies are applied to footwear, seating surfaces an cryotherapy devices. The cooling and cryotherapy system employ an evaporator in close proximity to skin, and therefore employ methods to reduce risk of frostbite. Advanced control and power supply options are disclosed.

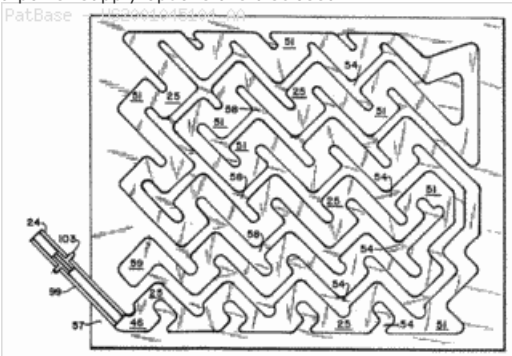
Classifications:

International (IPC 8-9): A43B13/18 A43B13/20 A43B7/14 A61F7/10 F28F3/12 (Advanced/Invention); A61F7/00 F28D20/02 (Advanced/Non-invention)

International (IPC 1-7): A43B7/14 A61F7/02 F25B1/10 F25B19/00 CPC: A43B1/0054 A43B3/0005 A43B3/0015 A43B3/0026 A43B7/02 A43B7/04 A43B7/06 A43B7/14 A43B7/1415 A43B13/14 A43B13/181 A43B13/189 A43B13/203 A43B13/206 A61F7/02 A61F7/10 A61F2007/0002 A61F2007/0027 A61F2007/0029 A61F2007/0039 A61F2007/0058 A61F2007/0076 A61F2007/0225 A61F2007/0233 A61F2007/0295 B60N2/5621 B60N2/5685 B60N2/5692 F28D20/02 F28D2021/0071 F28F3/12 A61F2007/0045 A61F2007/0054 A61F2007/0065 A61F2007/0094

European: A43B1/00M A43B13/14 A43B13/18A A43B13/18G A43B13/20P A43B13/20T A43B3/00E A43B3/00E20 A43B3/00M A43B7/02 A43B7/04 A43B7/06 A43B7/14 A43B7/14A20 A61F7/02 A61F7/10 B60N2/56C4 B60N2/56E2 B60N2/56E4 F28F3/12 K61F7/00A2 K61F7/00A3L K61F7/00A4 K61F7/00A5 K61F7/00A5H K61F7/00C K61F7/00C2B K61F7/00D2A2 K61F7/00E2R K61F7/00R K61F7/02G K61F7/02G5 K61F7/02T R28D20/02 R28D21/00T230F

US: 036/1 036/88 36/1 36/28 36/29 36/290 36/88 36/93 607/104 607/112 607/114 62/51.1 62/510 62/510P



Family:

Publication number	Publication date	Application number	Application date
US2001045104 AA	20011129	US20010853097	20010510
US5658324 A	19970819	US19940227634	19940414
US6230501 BA	20010515	US19990303585	19990503
US6865825 BB	20050315	US20010853097	20010510
US7107706 BA	20060919	US20050199546	20050808
US7204041 BA	20070417	US20050075112	20050308
US7219449 BA	20070522	US20040870194	20040617
US7395614 BA	20080708	US20060532862	20060918

Priority:

US19940227634 19940414 US19940349509 19941202 US19970911261 19970814
US19990303585 19990503 US20010853097 20010510 US20040870194 20040617
US20050075112 20050308 US20050199546 20050808 US20060532862 20060918

Probable Assignee: PROMDX TECHNOLOGY INC**Assignee(s):** (std): PROMDX TECHNOLOGY INC ; PROMDX TECHNOLOGY INC**Assignee(s):** LAKIN GENERAL CORP ; HOFFBERG STEVEN M ; BAILEY RICHARD F ; FISHER RONALD A**Inventor(s):** (std): BAILEY RICHARD F ; FISHER RONALD A ; HOFFBERG STEVEN M ; BAILEY SR RICHARD F ; FISHER RONALD**Inventor(s):** SR RICHARD F ; BAILEY**Agent(s):** MILDE AND HOFFBERG LLP**13) Family number: 73265914 (US2019056147A)**

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Title: THIN MULTI-CHANNEL HEAT EXCHANGER

Abstract: Technologies are disclosed herein for a thin heat exchanger through which coolant may be pumped. The heat exchanger may include an envelope and a heat conduction layer provided over the envelope. The envelope may include one or more channels formed therein. The channels formed between the envelope and the conduction layer may extend the length of the heat exchange layer and be configured to carry coolant therethrough. The heat exchange layer may include an inlet manifold on a first end and an outlet manifold on another end opposing the first end. The inlet manifold may allow the flow of coolant into the heat exchange layer and the outlet manifold may allow the removal of the coolant from the heat exchange layer. Coolant flow may be controlled by a suction pump operating under computer control based at least in part on sensor data.

Classifications:**International (IPC 8-9):** B23P15/26 F24S10/50 F24S70/30

F24S80/453 (Advanced/Invention)

CPC: F24S10/502 F24S80/453 F24S70/30 B23P15/26 F24S10/30

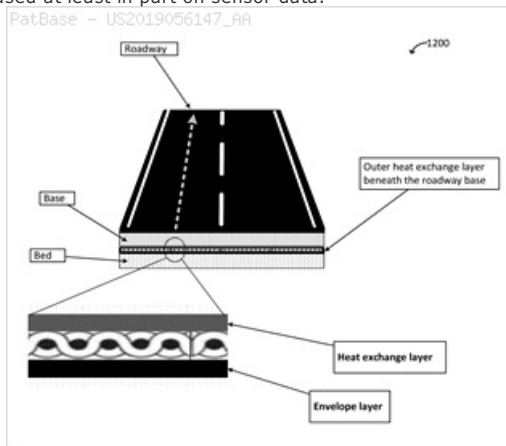
F24S10/80 F24S20/02 F24S20/20 F24S20/64 F24S20/66 F24S20/67

F24S40/60 F24S50/00 F24S80/10 F24S80/30 F24S90/00 F25B39/04

F28D20/0034 F28D21/0001 F28D21/0003 F28D21/0005 F28D2020/006

F28D2021/0043 F28F3/12 G06F1/20 H01L35/30 H01M10/613 H02S40/42

F25B2339/047

US: 126/646**Family:**

Publication number	Publication date	Application number	Application date
US2019056147 AA	20190221	US20180914636	20180307

Priority:

US20170546286P 20170816 US20180914636 20180307

Probable Assignee: BRISEBOIS ART**Assignee(s):** (std): BRISEBOIS ART**Inventor(s):** (std): BRISEBOIS ART**14) Family number: 64141943 (US2017246030A)**

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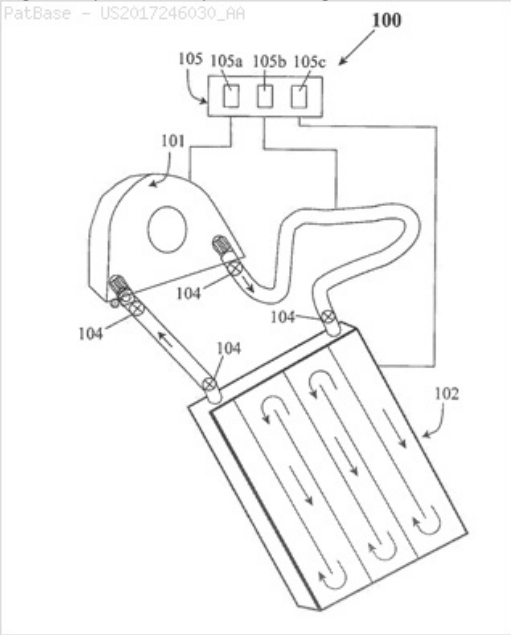
Title: CLOSED CIRCUIT FORCED HOT AIR INTRAOPERATIVE PATIENT WARMER WITH IMPROVED STERILITY

Abstract: A system for a closed circuit forced hot air warmer of patient beds and blankets with improved sterility has a patient mattress or blanket microprocessor controlled warmer that circulates heated air in a closed system without releasing warmed air into the area surrounding the patient or into the operating room. The system helps to avoid the exposure of patients and hospital workers in the operating room to possible infecting microbes carried in unsterile turbulent air currents related to the release of air from non-closed systems. The machinery and flexible hoses of the system are initially sterilized by a microprocessor controlled antimicrobial mist generator. The system does not discharge jets of warmed air due to the closed circuit arrangement. Turbulent air flow previously produced in the vicinity of the patient by high velocity air jets is eliminated. An ambient, quiescent condition

accorded by closed circuit heating prevents infection of patients and operating room personnel by microbe migration.

Classifications:

International (IPC 8-9): A47C21/00 A47C21/04 A61F7/00 A61L2/00
A61L2/20 A61L2/22 A61L2/24 A61L2/26 A61L9/00
A61L9/14 (Advanced/Invention)
CPC: A61F7/0097 A61F2007/0055 A61F7/0085 A61F2007/0094 A61L2/00
A61L2/22 A61L2/26 A61L2202/15 A61L2209/14 A61L2202/122
A61L2202/123 A61L2202/24 A61L9/16 B01D46/00



Family:

Publication number	Publication date	Application number	Application date
CA3016038 AA	20180828	CA20173016038	20170228
EP3422906 A1	20190109	EP20170760575	20170228
US2017246030 AA	20170831	US20160334507	20161026
US2018028702 AA	20180201	US20170722822	20171002
US9504601 BA	20161129	US20160056120	20160229
US9901483 BB	20180227	US20160334507	20161026
WO17151556 A1	20170908	WO2017US19847	20170228

Priority:

US20160056120 20160229 US20160334507 20161026 WO2017US19847 20170228
US20170722822 20171002

Probable Assignee: LEWIS RANDALL J

Assignee(s): (std): LEWIS RANDALL J

Inventor(s): (std): LEWIS RANDALL J

Agent(s): MBM INTELLECTUAL PROPERTY LAW LLP; PRONOVEM; ERNEST D; MARGARET A; ERNEST D BUFF AND ASSOCIATES LLC; BUFF ERNEST D

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

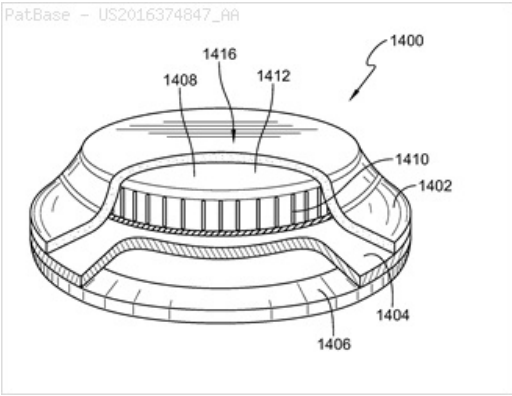
15) Family number: 64500952 (US2016374847A) © PatBase

Title: PROTECTIVE DRESSING WITH REUSABLE PHASE-CHANGE MATERIAL COOLING INSERT

Abstract: A protective dressing includes an outer dressing and an adhesive layer. The outer dressing includes an opening and a cavity sized to receive a phase-change material (PCM) insert inserted through the opening. The adhesive layer is configured to adhere to a patient's skin surrounding an anatomic site. When adhered to the patient's skin, the PCM insert modifies the patient's skin at the anatomic site. The PCM insert may be removed and replaced with another PCM insert. For example, a warm PCM insert may be replaced with a refrigerated PCM insert. The opening of the outer dressing may be self-sealing. The opening of the outer dressing may be sealed with an upper layer dressing coupled to the PCM cooling insert.

Classifications:

International (IPC 8-9): A61B5/00 A61B5/026 A61F13/00 A61F13/02
A61F5/30 A61F7/00 A61F7/02 A61F7/10 (Advanced/Invention)
CPC: A61F5/30 A61F13/00068 A61F13/0226 A61F13/025 A61F7/10
A61B5/026 A61B5/4836 A61F2013/15024 A61F7/0097 A61F2007/0219
A61F2013/002 A61F2013/00553 A61F2013/0057 A61B2562/0247
A61B2562/029 A61F7/02 A61F13/00051 A61F13/00063 A61F13/023
A61F2007/0292 A61F2013/00187 A61F2013/00919 A61F7/007
A61F2007/004 A61F2007/0052 A61F2007/0075
US: 128/889



Family:

Publication number	Publication date	Application number	Application date
EP3108862 A1	20161228	EP20160176061	20160623
US2016374847 AA	20161229	US20160189459	20160622

Priority:

US20150184472P 20150625 US20160189459 20160622

Probable Assignee: HILL ROM SERVICES INC

Assignee(s): (std): HILL ROM SERVICES INC

Assignee(s): JPMORGAN CHASE BANK NA COLLATERAL AGENT AS

Inventor(s): (std): MARRION JEFFREY C ; VANGILDER CATHERINE A ; SRIVASTAVA VARAD N ; RIBBLE DAVID L ; VANGILDER CATHERINE ANN ; HERTZ BEN ; WILLIAMSON RACHEL L ; BAKER STEVEN D ; LACHENBRUCH CHARLES A ; HILL CHRIS ; MEYERSON CRAIG M ; AGDEPPA ERIC D ; SWOISH MURRAY M ; HARMEYER JOHN V ; SRIVASTAVA VARAD NARAYAN ; LI YONGFENG ; BONENFANT ROGER P ; NEWKIRK DAVID C ; LAWRENCE ROBERT J ; BEDEL DAVID L ; MARION JEFFREY ; O NEAL TODD P ; RIBBLE DAVID LANCE

Agent(s): FINDLAY ALICE ROSEMARY

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR