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(54) **Inflatable bed**

(57) The inflatable bed has an upper main mattress member of a generally flat rectangular structure of the inflatable type which has attached to its lower side one or more inflatable supporting members of a tubular structure having an external profile which matches the

external shape of the upper member and which are hollow within, the upper mattress member being connected to the lower supporting member through passages for air in order to permit simultaneous inflation and deflation.

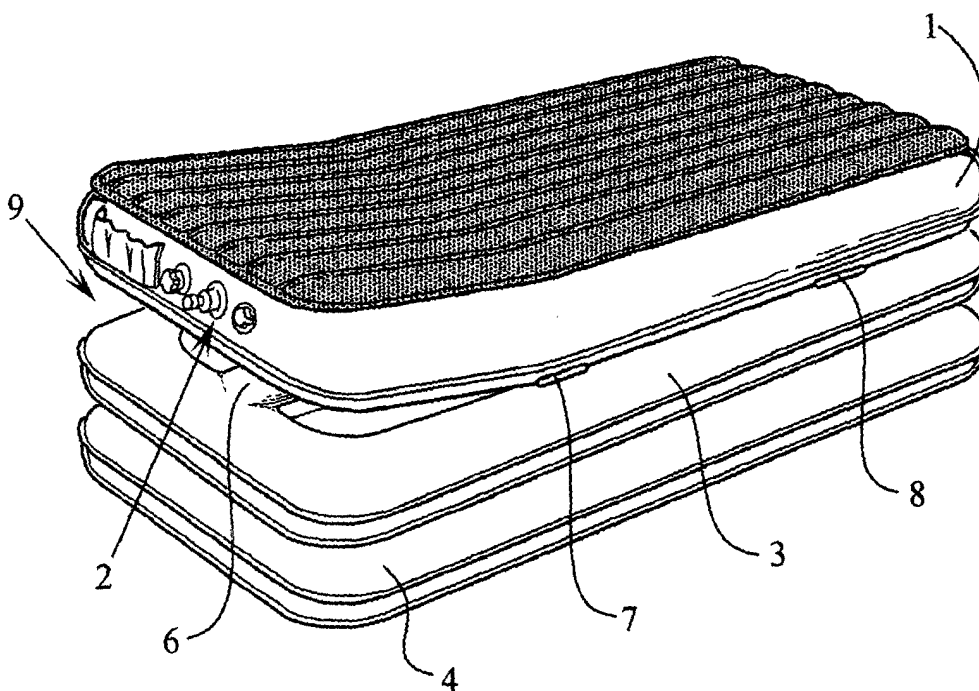


FIG. 3

Description

[0001] This invention relates to an inflatable bed which has substantial features of novelty and inventive step in comparison with the state of the art.

[0002] The inflatable bed according to this invention is characterised in that it has an upper member in the form of an inflatable mattress of substantially flat rectangular parallelepipedal structure which is supplemented by two lower supporting bodies in the form of separate inflatable rings which may communicate with each other and with the mattress of the upper part and which have a periphery coinciding with the said upper mattress member, comprising an assembly of great stability and convenience which also at the same time has substantial advantages with respect to the state of the art, especially as regards the saving of material used for manufacture of the mattress, saving of space when the mattress is folded up and saving in the weight of the mattress itself, which permits easier handling thereof, above all after folding.

[0003] Given the ring-shaped structure of the members located beneath the upper mattress member, these have reinforcing members which join the opposite sides of the annular body, preferably in a longitudinal direction, that is joining the shorter sides, although they may also be located in a transverse arrangement, in the form of diagonals or other arrangements. In any event the said reinforcing members will have a substantially tubular structure, will be manufactured of a flexible material similar to that of the upper member of the mattress and will be connected to the annular bodies of the supporting members with the result that inflation of the entire bed assembly takes place in a single operation from control points located preferably in the upper part of the mattress, that is in the upper member, in order to improve their accessibility.

[0004] The junction between the supporting members of the tubular type and the upper mattress member is preferably obtained by means of two short areas located on the longer sides, leaving sufficient space with respect to the end of the bed to allow the ends of the upper mattress to be lifted in order to make it possible to make the bed, that is place the sheet more conveniently onto the ends of the mattress.

[0005] For better understanding, drawings explaining this invention are provided by way of explanatory but not restrictive examples.

Figure 1 shows a perspective view from the top and side of a bed according to the invention.

Figure 2 is a perspective view of the bed in the inverted position.

Figure 3 is a view similar to Figure 1 showing the upper mattress member slightly raised to show the position in which the sheet is fitted.

Figures 4 and 5 are each views of the bed from beneath and lateral elevation views from one of its

shorter sides.

Figure 6 shows a transverse cross-section through the cross-section plane indicated.

Figures 7 and 8 show respectively a plan view of the bed and a lateral elevation view from one of its longer sides.

Figures 9 and 10 are views of the underside of variant embodiments of the bed according to this invention.

[0006] As shown in the figures, the bed to which this invention relates is characterised in that it comprises an upper mattress member or body having a general structure which is preferably a flat rectangular parallelepiped 1, being capable of being inflated and deflated through a set of controls 2 located on one of its shorter sides, characterised in that the bed has one or two lower annular members 3 and 4 supporting upper mattress member 1, which supporting members 3 and 4 adopt a general structure in the form of a hoop or ring with their external perimeter coinciding with that of mattress member 1, that is to say substantially rectangular.

[0007] The assembly of the upper mattress member and supporting members 3 and 4 can be inflated and deflated through the same set of members 2 incorporated in upper member 1.

[0008] The structure of annular members 3 and 4 can be better appreciated in Figures 2 and 6, in which they will be seen to comprise a cylindrical tubular member or the like which extends the entire length of principal member 1 of the mattress and which therefore has its internal part hollow, this part also having tubular reinforcements of the inflatable type and connected to the ring proper for greater stability as illustrated by numbers 5 and 6 in Figure 6.

[0009] Upper member 1 is joined to member 3 immediately beneath preferably by means of short junction zones 7 and 8 located in the areas where the said mattress members and support members 1 and 3 respectively coincide so that the end parts of upper mattress member 1 are free to allow it to be folded upwards which can be seen in Figure 3, forming an opening 9 into which the sheet can be inserted when the bed is made.

[0010] Reinforcements 5 and 6 may be located in the longitudinal direction within the supporting hoop, as illustrated in the view shown in Figure 4, in which supporting member 4 provided with longitudinal reinforcement 5 will be seen, or may be as illustrated in Figures 9 and 10, in which there will be seen a supporting member represented by the number 10 which in one case has a transverse tubular reinforcement 11 joined between the parallel sides of the annular member, or the arrangement in Figure 10 in which the annular member 10 is provided with a reinforcement 12 in a diagonal arrangement. In the specific embodiment of the inflatable bed the number of supporting members as indicated by numbers 3 and 4 will obviously vary, depending on the desired height of the bed. In a preferred embodiment

the number of supporting members will be two, but it may be one or a larger number.

[0011] The materials of which the bed is made may also be varied provided that they have the properties of some elasticity and foldability and lightness, such as a plastics material of the PVC or another type, or textile materials with a coating of plastics or rubber or other materials.

[0012] Through construction of the bed according to this invention substantial advantages are achieved in comparison with what is currently known, among which specific mention may be made of the reduction in the quantity of material necessary to manufacture the bed in comparison with currently known inflatable beds with various superimposed similar members and likewise the considerable reduction in weight and space occupied, which is especially significant when the bed is folded for the purposes of storage, packaging, etc.

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Claims

1. Inflatable bed, **characterised in that** it has a main upper mattress member of a generally flat rectangular structure of the inflatable type which has attached to its lower side one or more inflatable supporting members of tubular structure having an external profile matching the external shape of the upper member and internally hollow, the upper mattress member being connected to the lower supporting members by air passages to permit simultaneous inflation and deflation.
2. Inflatable bed according to claim 1, **characterised in that** the upper mattress member and the annular supporting member and the supporting members are joined together through welding points located in areas where their longer sides coincide at a relative distance from the ends corresponding to the shorter sides in order to permit partial folding of the upper member to allow the bed-clothes to be fitted.
3. Inflatable bed according to claim 1, **characterised in that** the tubular supporting members have reinforcing members of tubular shape which join the opposite sides of the said supporting members of tubular structure, being simultaneously inflatable and deflatable with the main member and the supporting members for the mattress.

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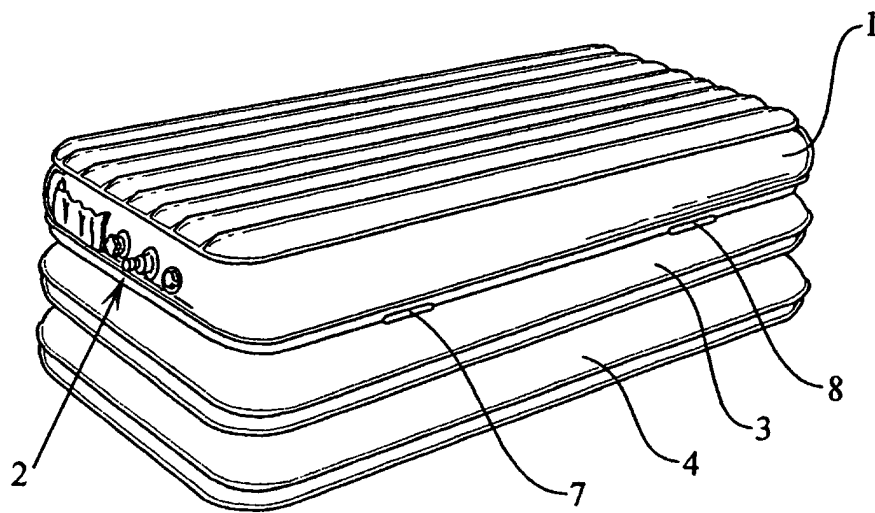


FIG. 1

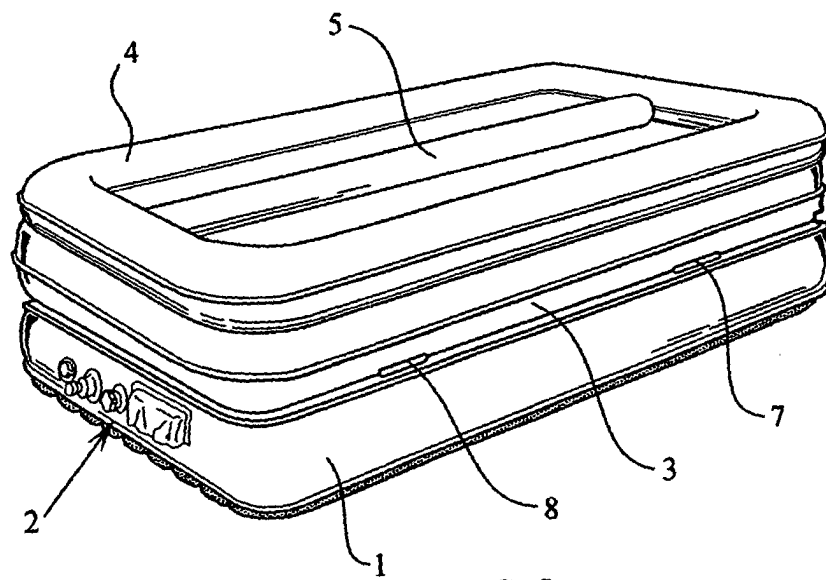


FIG. 2

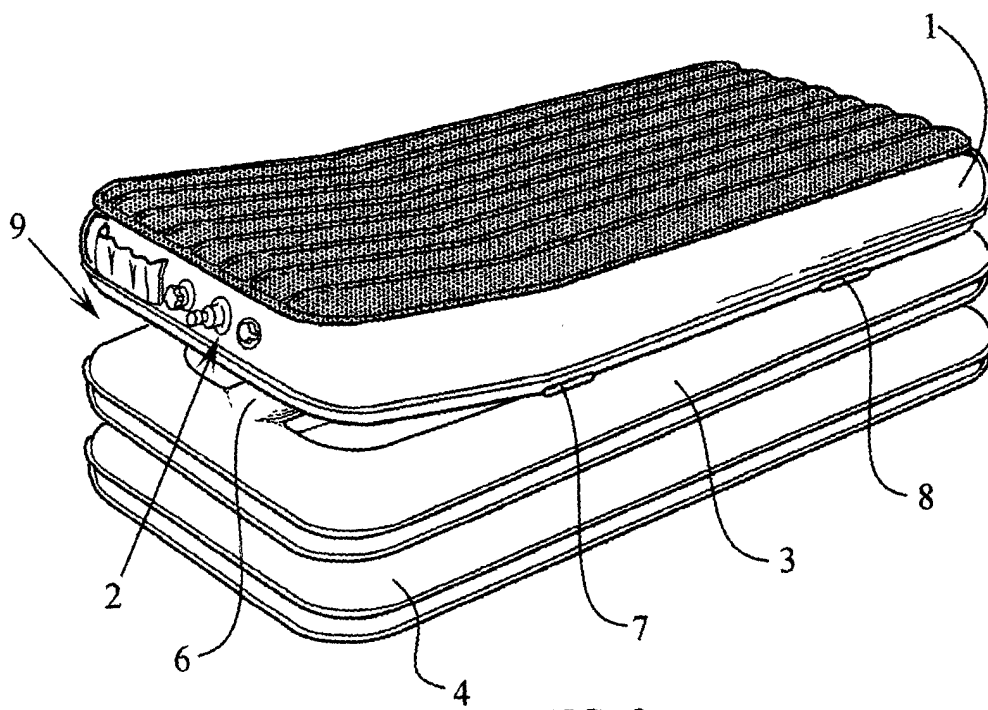


FIG. 3

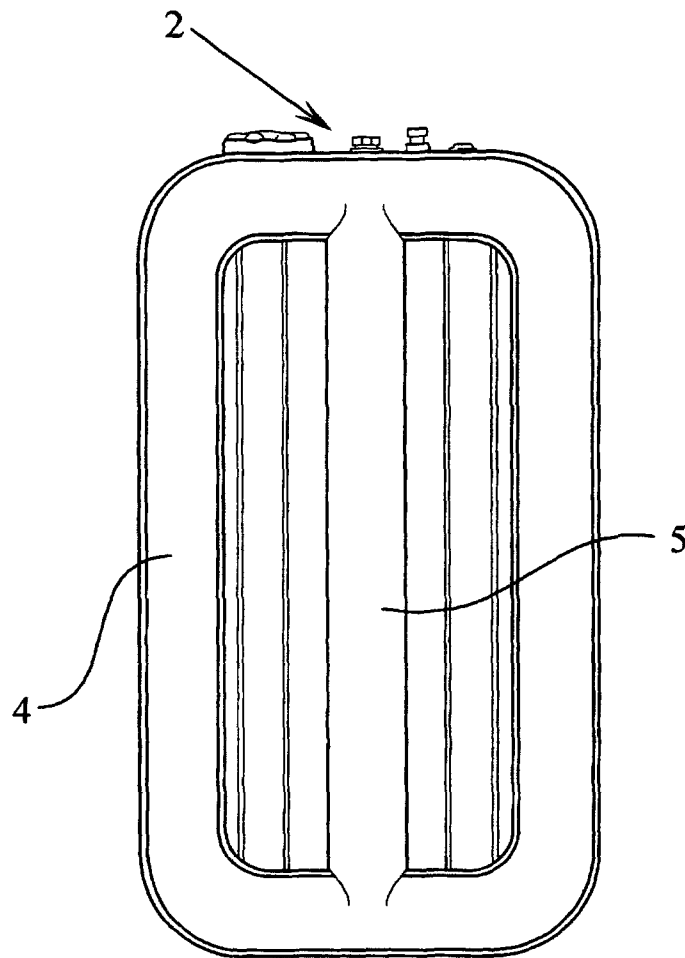


FIG. 4

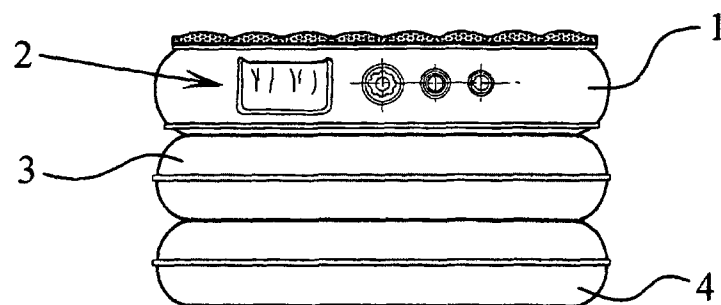
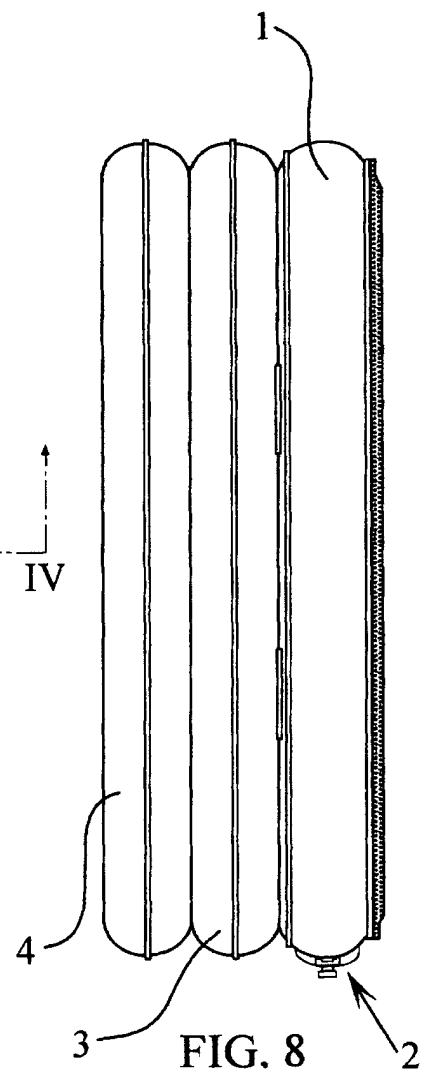
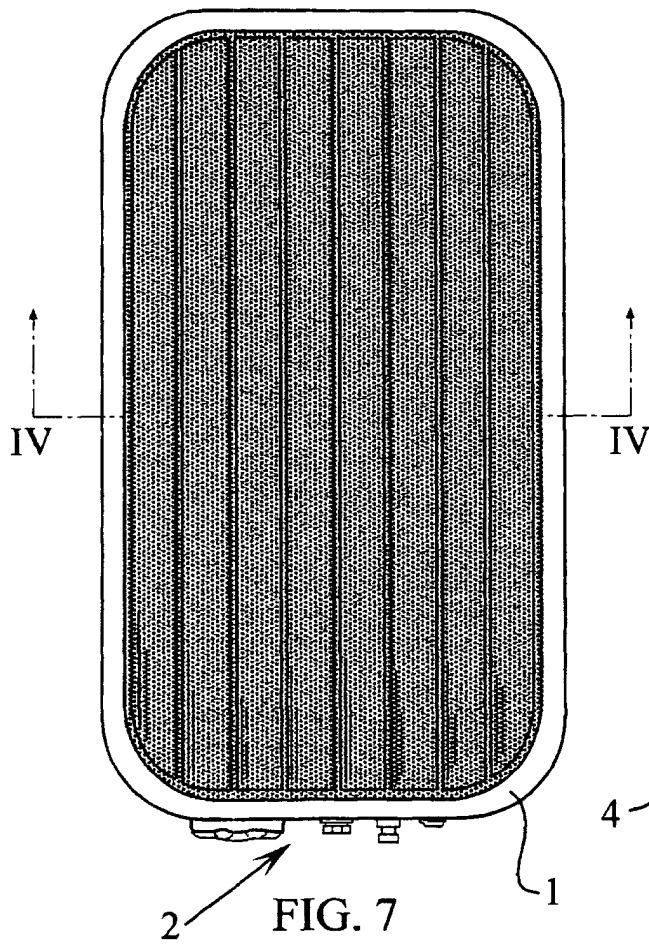
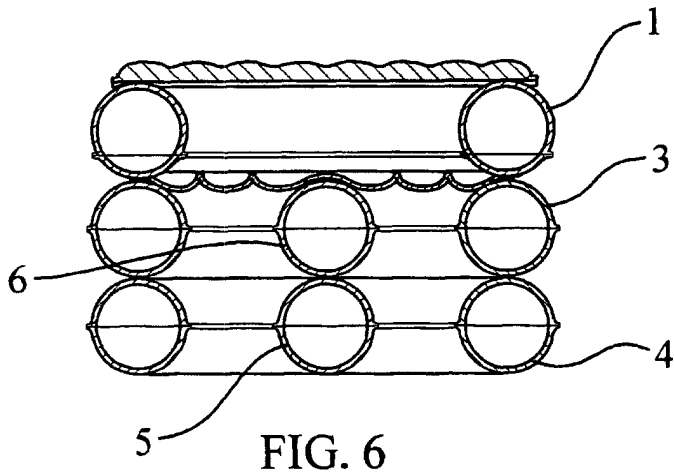
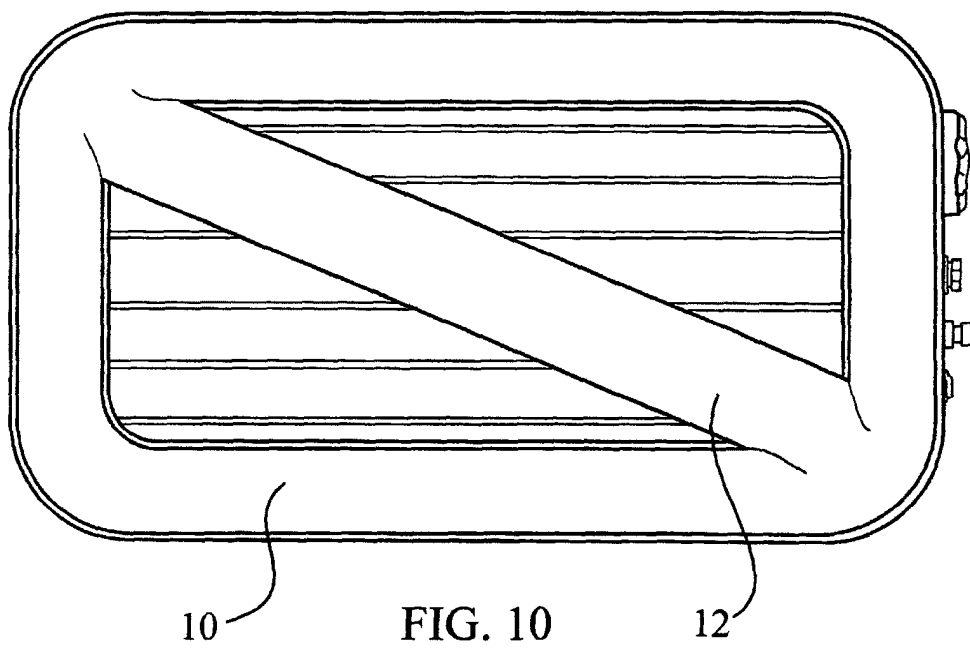
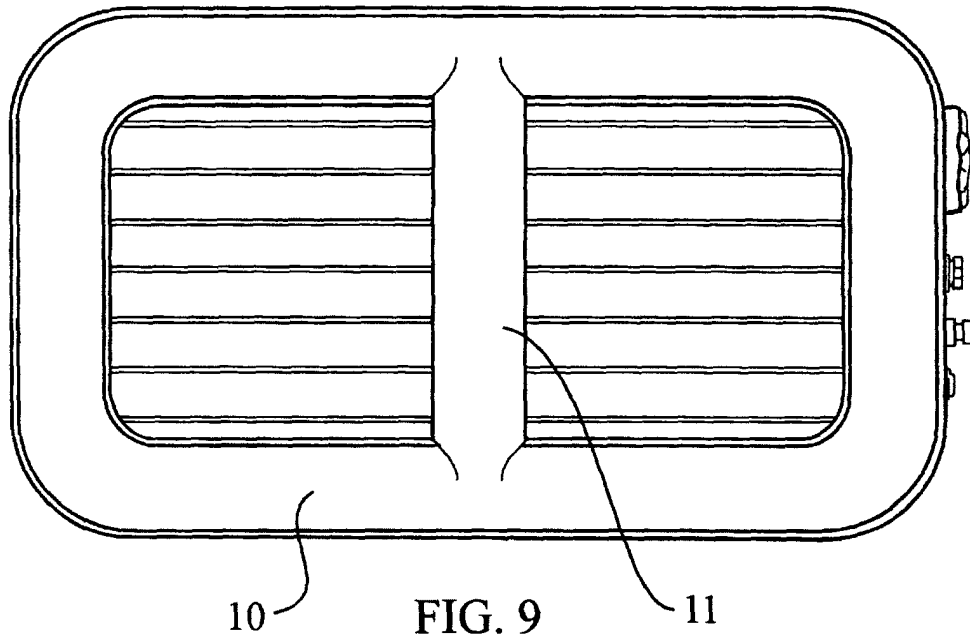


FIG. 5







European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 38 0201

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	US 2003/101516 A1 (HSU) 5 June 2003 (2003-06-05) * paragraph [0042] - paragraph [0045]; figures *	1,3	A47C27/08 A47C27/10
A	----- US 6 076 214 A (KLIMENKO) 20 June 2000 (2000-06-20) * abstract; figures *	1-3	
A	----- US D 464 225 S (BOSO) 15 October 2002 (2002-10-15) * the whole document *	1-3	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			A47C
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 17 January 2005	Examiner VandeVondele, J
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03/02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 38 0201

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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17-01-2005

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