



(19)

Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 879 571 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
25.11.1998 Bulletin 1998/48

(51) Int. Cl.⁶: **A47C 21/04**

(21) Application number: **97500089.4**

(22) Date of filing: **21.05.1997**

(84) Designated Contracting States:
**AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE**
Designated Extension States:
AL LT LV RO SI

(71) Applicant:
Piramide Publicidad, S.L.
28260 Galapagar, Madrid (ES)

(72) Inventor:
Martinez Moreno, Miguel
28260 Galapagar, Madrid (ES)

(74) Representative:
Sanchez del Campo Gonzalez de Ubierna,
Ramon
c/o Ballester y Cia. S.L.,
Velázquez, 87-1.o Dcha
28006 Madrid (ES)

(54) New improved thermic mattress

(57) A new improved thermic mattress, consisting of incorporating inside a conventional mattress (1), in its middle upper layer, a flexible electric resistance (2), protected by a layer of silicone (4), having a controlled power of 220V, with an optional starting switch in two working zones, allowing, in a second embodiment, the

electric resistance (2) to be incorporated into a flexible elastic sheet (10), located on the surface or upper face of the mattress (1), in a fixed way, so forming a monoblock with the mattress, or by means allowing its detachment.

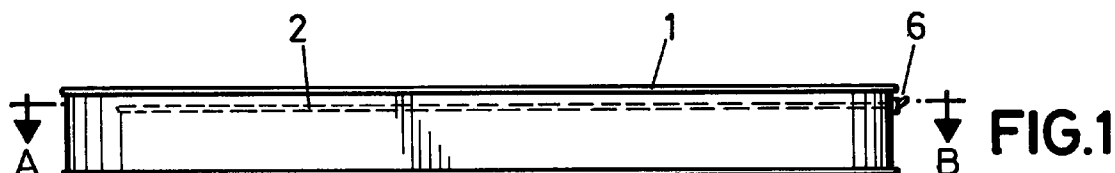


FIG.1

EP 0 879 571 A1

Description

PURPOSE OF THE INVENTION

This description refers to a patent applied for, and relates to a new improved thermic mattress, whose purpose is clearly to be used as a conventional mattress that presents a suitable internally built-in flexible electric resistance protected by a layer of silicone, introduced for security purposes and which will act as a heat generator. The flexible electric resistance instead of being built-in to the mattress can be built-in to a flexible sheet over the upper layer of the mattress, managing in the same way to generate the pertinent heat as a comfort to the user.

SCOPE OF THE INVENTION

This invention is for use within the mattress manufacturing industry, and might be partially used by the electric resistance manufacturing industry.

BACKGROUND OF THE INVENTION

The applicant is aware of the existence at present of a number of blankets and similar products which apply heat to the user plugged into conventional electricity supplies.

These mattresses, pillows or similar, usually of a smaller size, have a power regulator which permits the user variation of temperature.

Generally-speaking, the heat generators are in the form of electrical resistances suitably protected and introduced into the interior of the various layers of fabric of which the blankets and other are made-up.

In addition to the existence of this type of electrical coverlets used as heat generators for human use, independent of if for use on top of the upper part of the mattress for receiving heat, the applicant is aware of the existence of mattresses which include over the "winter side" of the mattress interconnected resistance/-s which generate heat, similar to the type incorporated in the coverlets, blankets, etc., etc.

It has been verified that the use of this type of resistance for mattresses on which one lies down for long periods of time cause a gradual wear and tear of the materials used in conventional resistances, damaging the same and, subsequently, the body of the mattress, detrimental to the comfort of the user.

Also, it should be borne in mind that the mattresses which include the previously mentioned resistances, and these mattresses are used by children which normally do not contain miction, imply a risk for the user, or when the user applies a notable amount of dampness to the mattresses (perspiration).

The obvious solution to the problem that exists at present would be to have available a mattress which includes a flexible electrical resistance with a factor of

security which would avoid the above-mentioned risks and, at the same time, given its characteristics, the comfort for the user would not be affected during the use of the mattress.

However, the applicant is not aware of the existence at present of a mattress of these ideal characteristics.

DESCRIPTION OF THE INVENTION

The new thermal improved mattress which the invention offers, constitutes in itself a clear novelty within the field of application of the same, given that from the introduction of a flexible electrical resistance adequately protected with a layer of silicone in the new mattress, the same can be considered as having all the characteristics indicated as ideal.

More specifically, the new improved thermic mattress, subject of this invention, constitutes a conventional mattress, which could have a central upper area, within a flexible, electric sheet able to be placed on the upper layer of the mattress and including a flexible electrical resistance protected by a layer of silicone for security purposes with a controlled power of 220 voltage and likewise a two-way switch of optional use which allows heating of 50% of the surface.

The invention has been formed in such a way that the resistance can be assembled on the upper middle face of the mattress and in such way provide its heating capacity without being detrimental to comfort.

Externally the mattress will have an entirely conventional aspect in accordance with the taste and choice of the user and based on a determined type of mattress.

In short, the invention can be formed as a resistance introduced in the interior of the mattress. That is to say, assembled over the upper middle face, or be introduced as an additional element which is added to, stuck to or fixed on one of the sides of the mattresses situated in the interior of a flexible sheet, which will be fixed to the mattress by conventional means to prevent movement.

In both cases the resistance placed in the interior of the mattress, or additional electrical sheet, will bear a switch for heating two separate areas which are understood to be the whole area of the mattress or sheet or, in the event, 50% of the area.

DESCRIPTION OF THE DRAWINGS

As a complement to the description which is to be realised and in order to provide a better understanding of the characteristics of the invention, illustrated, non-limiting drawings are attached to this report, and form an integral part of the same and are as follows:

Drawing 1: Shows a raised side view of a conventional mattress in the interior of which -on the upper middle layer- a flexible electrical resistance is intro-

duced, forming as a result a first realisation of the invention of a new improved thermic mattress.

Drawing 2: Corresponds to a view of A-B of figure 1.

Drawing 3: Shows a view of C-D of figure 2.

Drawing 4: Corresponds to a raised side view of a second realisation of the invention in the form of a flexible, elastic sheet on the surface of the mattress.

PREFERENTIAL REALISATION OF THE INVENTION

In view of drawing 1, it can be observed how the new improved thermic mattress is formed from the introduction in the interior of the conventional mattress (1) - on the upper middle layer- a flexible electrical resistance protected by a layer of silicone for security purposes and a controlled power of 220 voltage which has an optional-use switch (6), so that the resistance (2) generates heat over all the surface area, or an area understood to be 50% of the whole.

Passing to figure 2 it can be observed how the electrical resistance (2) has a covering of silicone (4) over the metal core (5) of the resistance (2), specifically indicating that the power is controlled at 220 wats.

In the second realisation, represented by figure 4, it can be observed how the resistance (2), introduced in the interior of the flexible elastic sheet (10) can be assembled in a direct manner over one of the two larger sides of the mattress (1), fixed (in such a way that it cannot slip) to the body of the mattress by conventional means forming a single block between the mattress (1) and the flexible sheet (10). Or optionally this flexible sheet can be fixed over the face of the mattress (1) through conventional means.

The temperature of the resistance obtained is 60°C, due to its response to the following factors:

$$L_t = n \cdot L_1 = 6 \times 1.5 = 9 \text{ mts. } W = 10 \text{ mts/mx9} = 90 \text{ wts.} \\ A_t = 16^\circ \text{C}$$

It is not considered necessary to enlarge this description as any expert on the subject might understand the scope of the invention and the advantages that the same offers.

The material, form, size and layout of the elements are liable to variation, but only when the same does not signify a change in the essential part of the invention.

The terms of this report should be at all times considered as ample and non-limiting

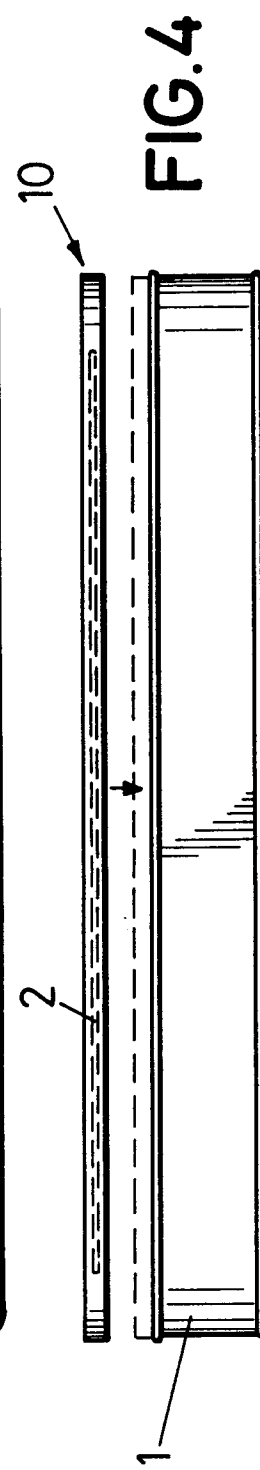
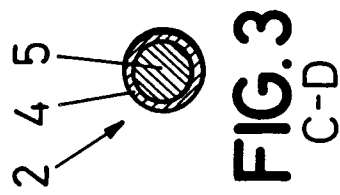
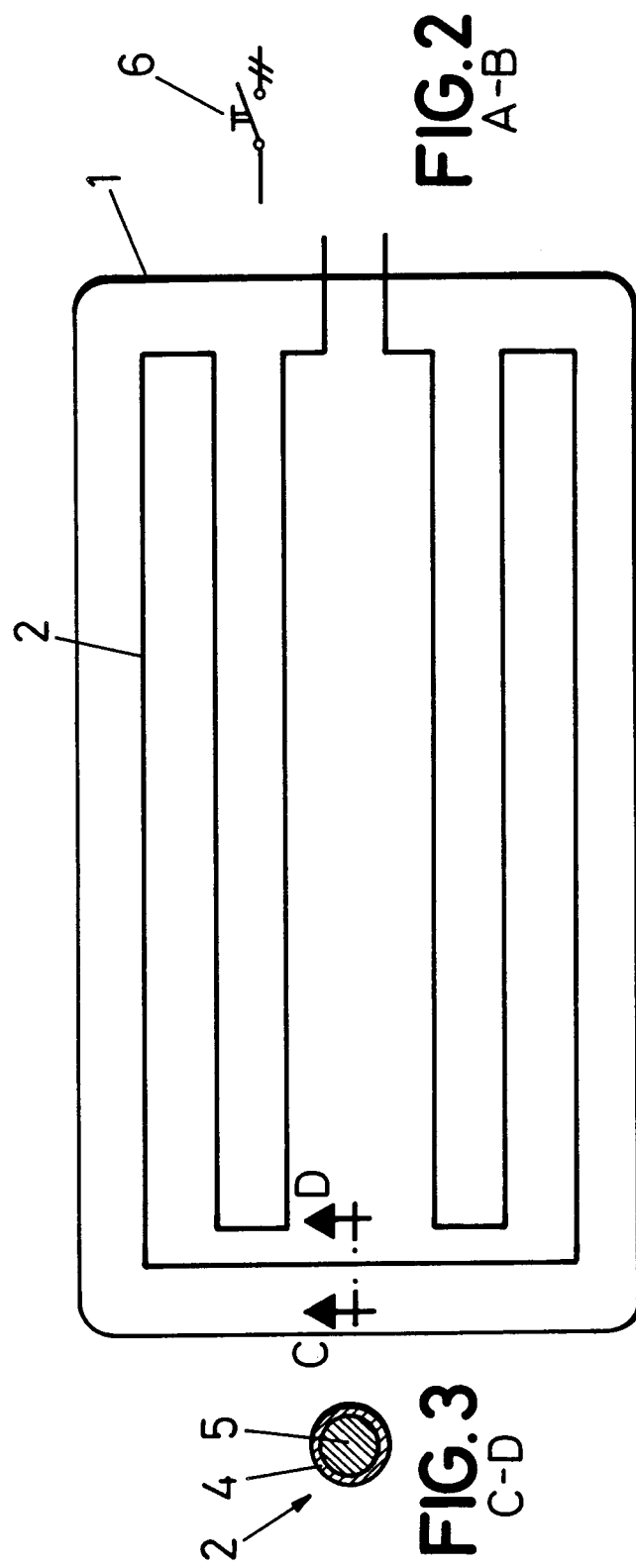
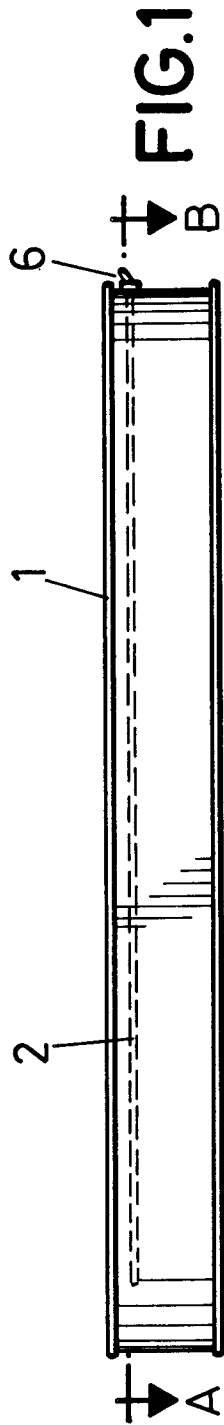
Claims

1. New improved thermic mattress based on the use of a conventional mattress (1), special because on the middle layer of the mattress (1) a flexible electrical mattress is introduced (2) protected by a layer of silicone (4) and a controlled power of 220 wats, with a switch (6), optionally included for the determination of 2 areas in which the resistance works (2).

2. New improved thermic mattress, in accordance with the first claim, whose special characteristic is the flexible electric resistance (2), protected by a layer of silicone (4), generating heat over all the working area, or half, by means of a switch (6).

3. New improved thermic mattress, in compliance with the previous claims, singular because in a second performance the electric resistance (2), protected by a layer of silicone (4), can be optionally introduced within a flexible electric sheet (10), located on the layer or upper face of the mattress (1).

4. New improved thermic mattress, as indicated in point 3, singular because the flexible sheet (10) can be placed over the mattress (1) forming a fixed single block through conventional means, or the flexible elastic sheet (10) can be fixed on the mattress (1) by conventional means allowing mobility.





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 97 50 0089

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.6)
A	EP 0 302 168 A (I.G. BAUERHIN) * the whole document *	1	A47C21/04
A	GB 2 110 060 A (AQUATRON) -----		
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			A47C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 23 October 1997	Examiner VandeVondele, J
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

EPO FORM 1503 03.82 (P04C01)