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A4L LABA LCC LCR LC4 L101 L107
A4M M1CX M1C5D

(56) Documents Cited
GB 2250189 A GB 2023416 A GB 2003726 A
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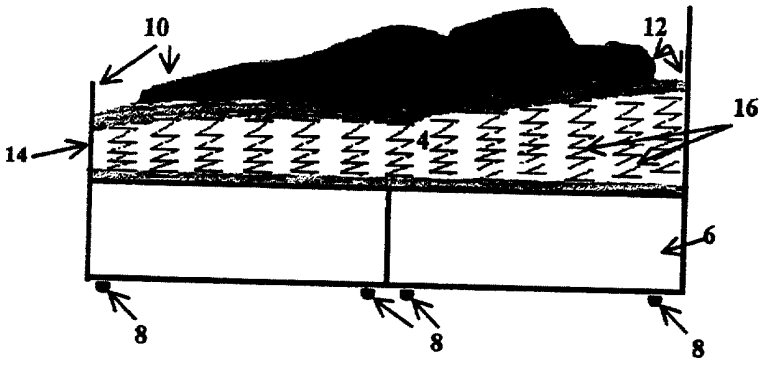
(58) Field of Search
UK CL (Edition P) A4L LABA LABB LABF LCR
Online: EPODOC, PAJ, WPI

(54) Abstract Title
A bed with an inclined sleeping surface

(57) A bed in which the sleeping surface is inclined so that the head end of the bed is higher than its foot end. This can be achieved in various ways, eg, the mattress may be wedge-shaped, the base of the bed may be inclined, an angled frame may be employed between the base and mattress, an inclined insert member or inflatable air bag may be placed between the mattress and bed base, or the legs of the base may be height adjustable. A user of the bed benefits from a wide range of health improvements caused by the inclined resting/sleeping position.

Fig 1



This application is proceeding under Section 89(3) following withdrawal of international application PCT/GB98/00321

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1995

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Fig 1

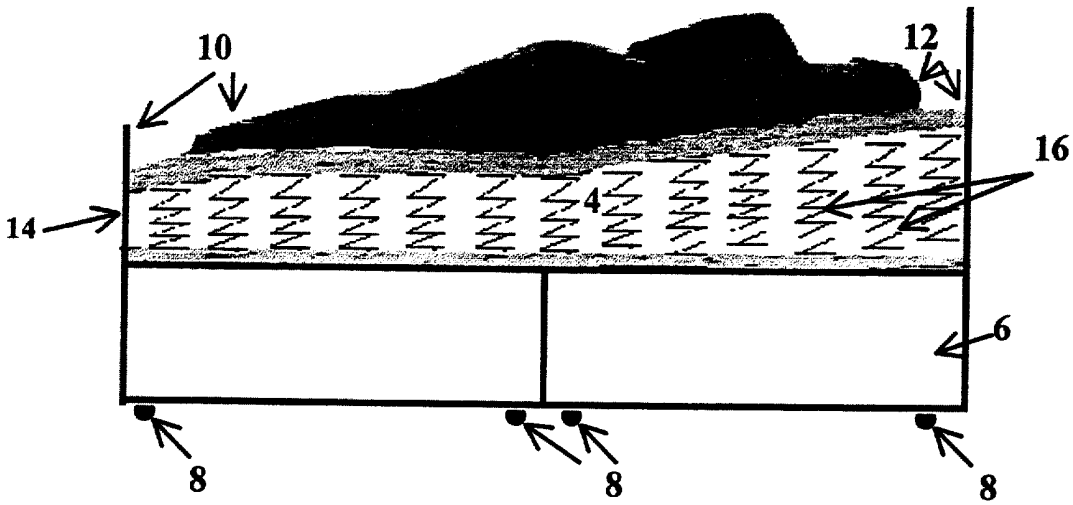


Fig 2

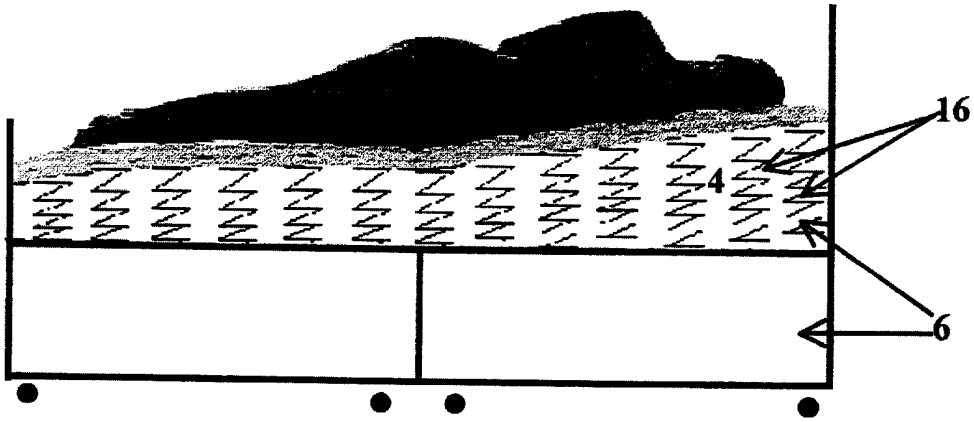


Fig 2a



Fig 3

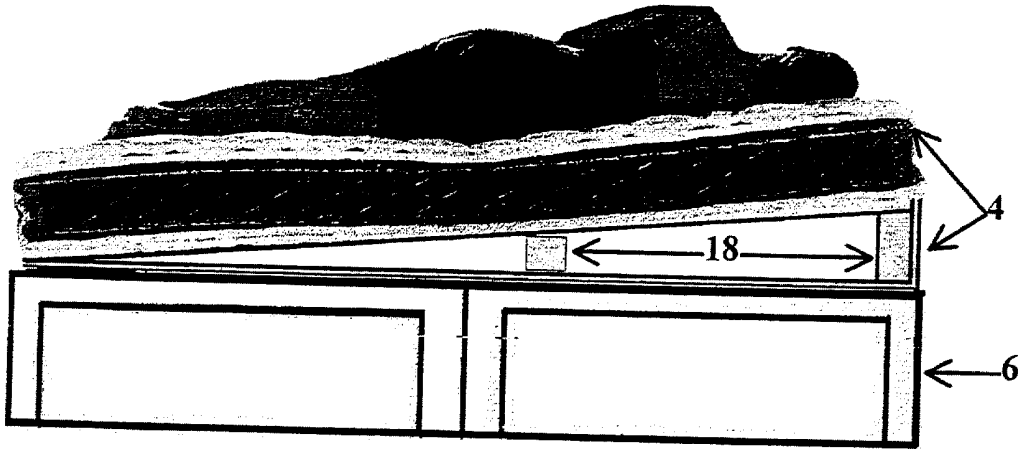


Fig 4

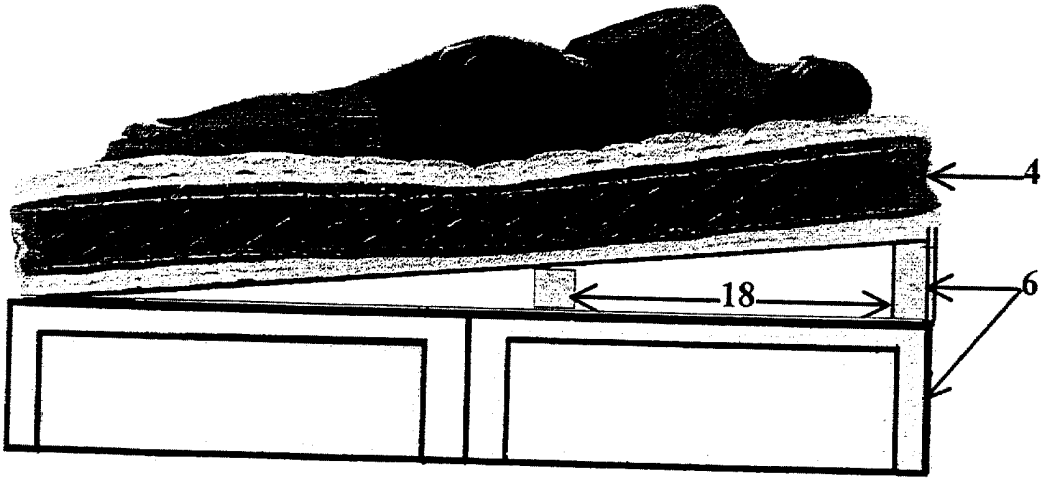


Fig 5

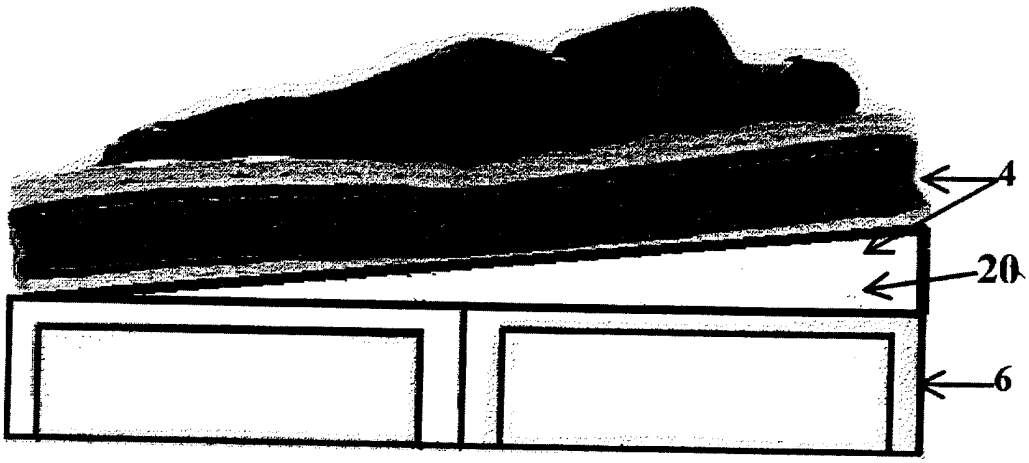


Fig 6

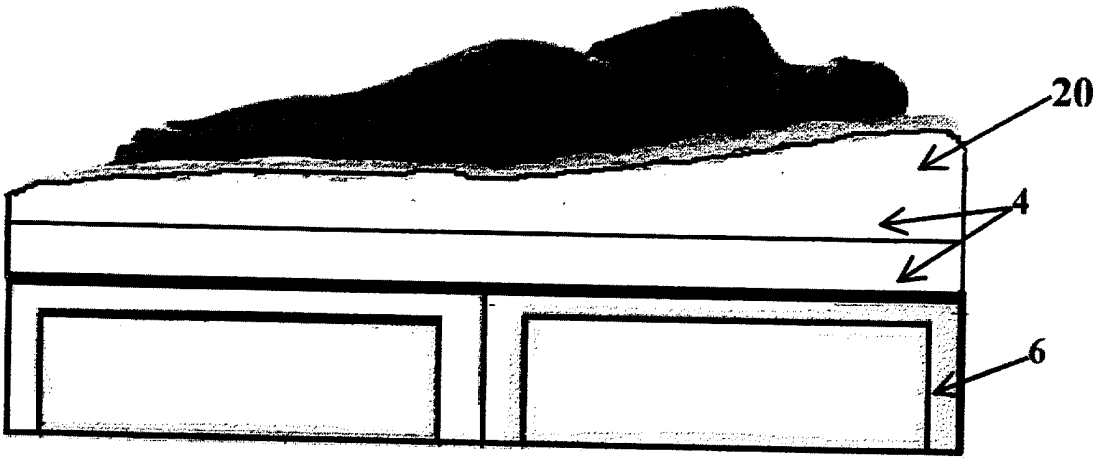


Fig 7

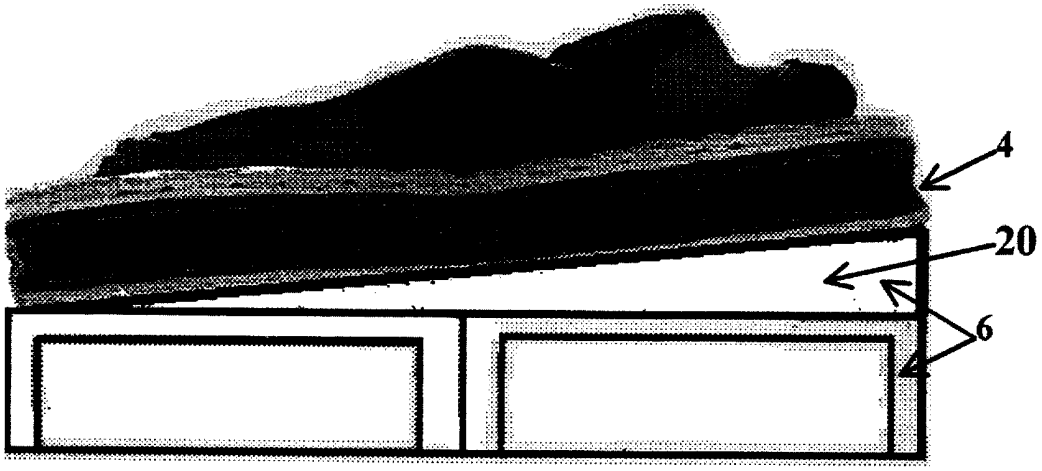


Fig 8

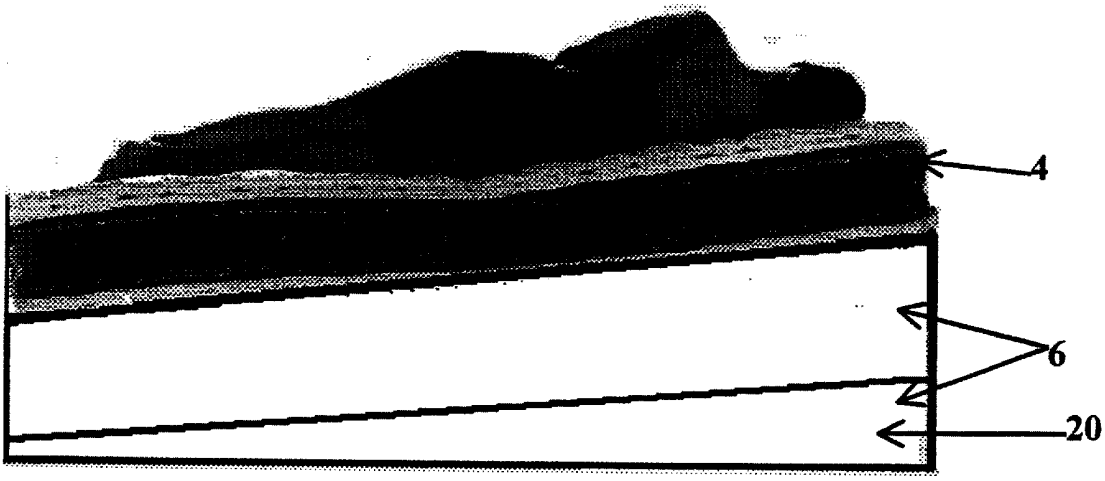


fig 9

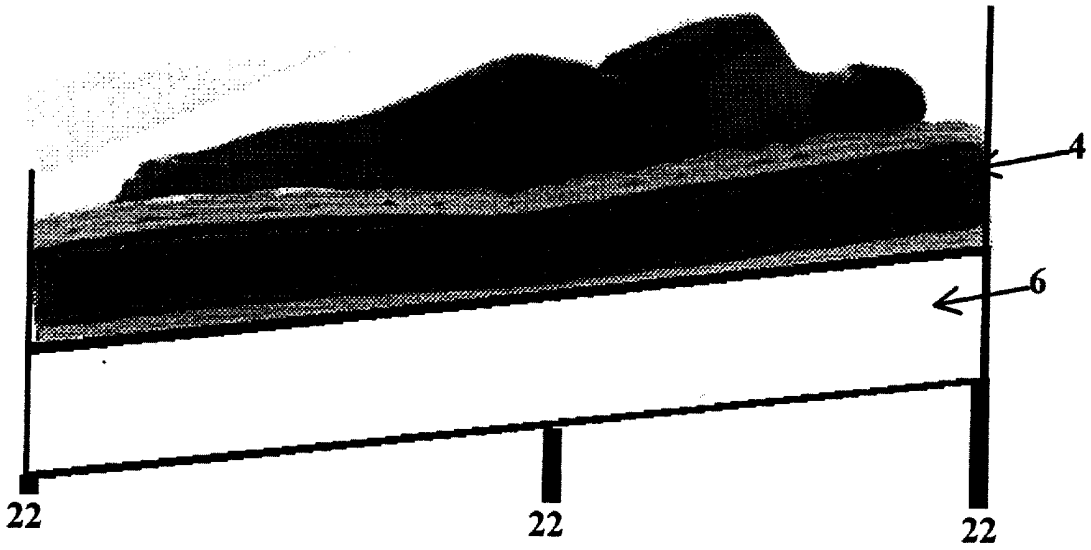


Fig 10

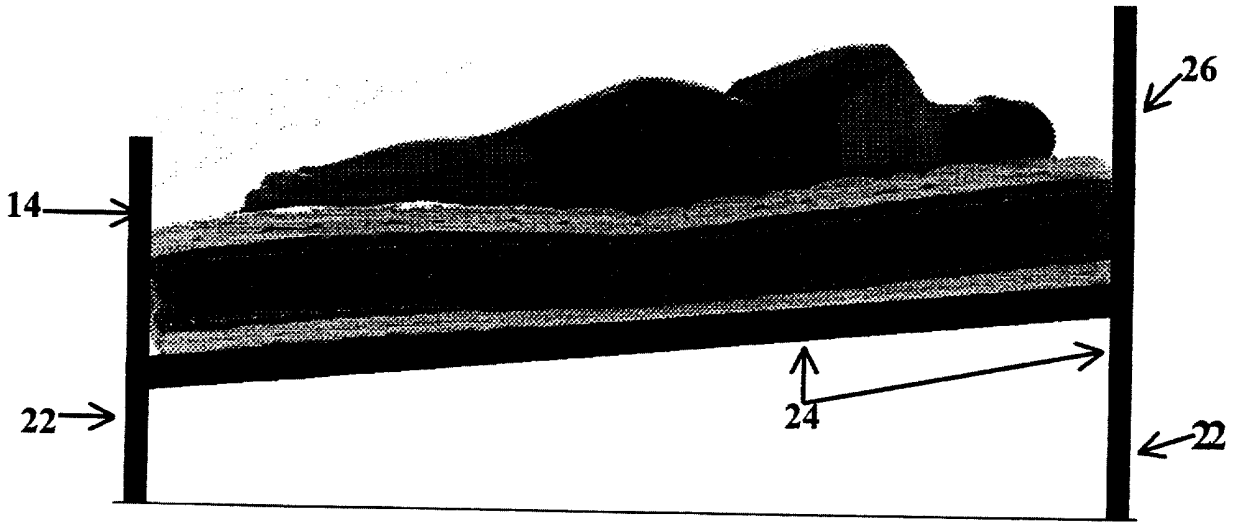
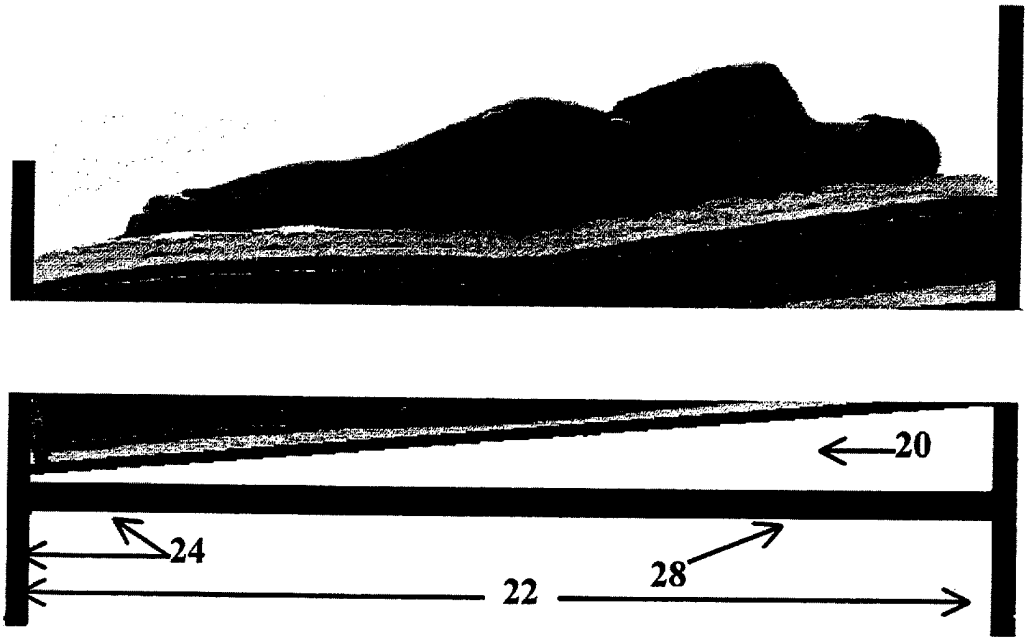


Fig 11



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A BED

This invention relates to a bed.

The vast majority of beds are constructed such that they have a mattress, which lies horizontally.

Some medical books recommend raising a foot part of a bed in order to cause the mattress to slope downwardly at an angle from a foot part of a bed to the head part of a bed. According to the medical books, such sloping of a bed is able to increase the circulation of a user of the bed.

It is an aim of the present invention to provide a bed which is of a novel construction and which is able to benefit the health of the user.

Accordingly, in one non-limiting embodiment of the present invention, there is provided a bed comprising a mattress and means for causing the mattress to slope downwardly at an angle from a head part of the bed to a foot part of the bed.

It will be thus appreciated that the bed of the present invention is of a novel construction. Because the mattress is such that it is neither horizontally mounted nor sloped downwardly at an angle towards the head part of the bed nor curved or distorted from the centre so as to raise or lower one half of the mattress by electronic or otherwise means. As is the case in the above mentioned known beds.

The principle foundation of the present invention is that gravity is an important and hitherto underestimated and overlooked driving force within the circulation of fluids in a person. It should therefore at all times be encouraged to continue to run through the fluids of the body in one direction. That being from head to toe while sleeping as is in the case while standing.

The present invention is so designed as to eliminate or remove the option of horizontal or "Traditional" bed rest, Legs raised bed rest and head down bed rest from the daily routine of a user of the invention.

By having the bed of the present invention such that the mattress slopes downwardly at an angle towards the foot part of the bed, a wide range of beneficial improvements to a user's health and general well being may take place. More specifically, (1) Persons suffering from Sudden Death syndrome, in example cot deaths or crib deaths may be reduced. (2) Persons suffering from varicose veins may disappear. (3) Persons suffering from the adverse affects of neurological disorders like multiple sclerosis may be reduced. (4) Improvements may be achieved in persons having suffered accidental neurological injuries such as those to the spinal cord. (5) Age related problems such arthritic conditions may be improved. (6) Persons suffering from sleeping disorders may be improved. (7) Persons suffering from circulatory problems may benefit. (8) Persons suffering from metabolic disorders may benefit. (9) Persons suffering from Immune disorders like AIDS may be improved. (10) Persons suffering from bone disorders like Osteoporosis may be improved.

Preferably, the bed is one in which the means for causing the mattress to tilt is an integral part of the bed. This is as opposed to having accessory type inserts, which can be inserted under the head part of the bed.

In one non-limiting embodiment of the invention, the bed may be one in which the means for causing the mattress to slope comprises a plurality of springs, the springs being progressively smaller in height from the head part of the bed to the foot part of the bed.

The springs may be provided in the mattress. Alternatively, the bed may be one which includes a base, and in which the springs are provided in the base in order to achieve the slope.

In another non-limiting embodiment of the invention, the means for causing the slope may comprise an angled frame, which slopes from the head part of the bed to the foot part of the bed.

The angled frame may be formed as an integral part of the bottom of the mattress. Alternatively, the angled frame may be hinged with respect to the base whereby the angled frame, is able to be moved between flat position and an inclined position.

In another non-limiting embodiment of the invention, the bed is one in which the means of causing the mattress to slope comprises an inclined insert member.

The insert member may be provided at a bottom part of the mattress, or at a top part of the mattress. Alternatively, the bed may be one which includes a base, and in which the insert member is provided as a part of the base. The insert member may be provided as a top part of the base or as a bottom part of the base.

In another non-limiting embodiment of the invention, the bed may be one in which the means for causing the mattress to slope comprises a plurality of legs, the legs being such that they decrease in height from the head part of the bed to the foot part of the bed.

The legs may fit to a base part of the bed, or they may form part of the frame of the bed.

In another non-limiting embodiment of the invention, the bed may be one which includes a frame, and in which the means for causing the mattress to slope is an insert, which rests on a base part of the frame.

In another non-limiting embodiment of the invention, the bed may be one in which the means for causing the mattress to slope comprises of an air bag.

The air bag may form part of the mattress. Alternatively, the airbag may be provided under the mattress. Still further, the bed may be one which the base includes the airbag.

In all embodiments of the invention, the bed may include stop means for preventing the mattress and or occupier from sliding off the foot part of the bed.

The stop means may comprise an upstanding portion against which the mattress abuts.

The bed may be one in which the mattress is, for example on a standard 6 feet 2 inch size bed, six inches or fifteen centre metres higher at the head part of the bed than at the foot part of the bed producing a 5 degree incline.

The mattress and other parts of the bed may be made from Rayon or cotton fabric. Such Rayon or Cotton fabric may be preferred since it does not tend to slide easily providing the user of such a bed with additional friction.

Embodiments of the invention will now be described solely by way of example and with reference to the accompanying drawings in which:

Figures 1 - 11 are side views of eleven different beds of the invention.

Referring to figure 1, there is shown a bed 2 comprising of a mattress 4 and a base 6. The base 6 is provided with casters. 8 and a foot board 10.

The mattress 4 is such that it slopes downwardly at an angle from head part 12 of the bed 2 to a foot part 14 of the bed.

As can be seen from figure 1, the mattress 4 has means in the form of a plurality of springs 16 for causing the mattress 4 to slope. The springs 16 are such that they become progressively smaller in height from the head part 12 of the bed to the foot part 14 of the bed 2. The springs 16 are provided in the mattress 4 so that they form an integral part of the mattress 4 and therefore an integral part of the bed 2.

The footboard 10 helps to stop the mattress, a person or bedclothes on the bed from sliding off the foot part 14 of the bed 2. The footboard 10 thus forms stop means for preventing the mattress, a person or bedclothes sliding off the foot part of the bed 2.

Figure 2 shows a bed 2 in which the springs 16 are provided in the base of 6 instead of in the mattress 4.

Figure 3 shows a bed 2 in which the means for causing the mattress to slope comprises an angled frame 18 which slopes from the head part 12 of the bed 2 the foot part of the bed 14 of the bed 2 . Figure 3 shows how the agled frame 18 is formed as an integral part of the top of the base 6.

Figure 4 shows how the angled bed 18 is formed as an integral part of the top of the base 6. In Figure 4, the angled frame 18 is fixed with respect to the base 6. In an alternative embodiment of the invention not shown, the angled frame18 could be hinged with respect to the base 6 whereby the angled frame 18 is able to be moved between a flat position and an inclined position.

Figure 5 shows a bed 2 in which the means for causing the mattress 4 to slope comprises an inclined insert member 20. Figure 5 shows the insert member 20 provided at a bottom part of the mattress 4. The insert member

20 may be a pre-formed slab of filling material which is inserted into the mattress either at the bottom part shown as shown in Figure 5 or at the top part as shown in Figure 6.

Figure 7 shows how the insert member 20 may be provided as part of the base 6. More specifically, Figure 7 shows the insert member 20 provided at a top part of the base 6. Figure 8 shows the insert member 20 provided at the bottom part of the base 6.

Figure 9 shows a bed 2 in which the castors 8 are provided on a plurality of legs 22, the legs 22 being such that they decrease in height from the head part 12 of the bed 2 to the foot part 14 of the bed2. As can be appreciated from Figure 9, the legs 22 are such as to constitute the means for causing the mattress 4 to slope. Figure 9 shows the legs fitted to the base 6 of the bed 2.

Figure 10 shows how a bed 2 may be provided with a frame 24 and, in this case, the legs 22 form part of the frame 24, as does a headboard 26.

Figure 11 is like figure 10 except that the legs 22 are of the same height and the means for causing the mattress to slope is an insert member 20 which is provided on a base part 28 of the frame 24.

Figures 10 and 11 may be modified to include an adjustable side rail-fixing cleat, which allows the user to determine the angle of the bed in relation to the vertical position of the headboard and footboard. Forming a parallelogram with vertical uprights when viewed from the side.

It is to be appreciated that the embodiments of the invention described above with reference to the accompanying drawings have been given by way of example only and that modifications may be effected. Thus, for example, the means for causing the mattress 4 to slope downwardly at an angle from the head part 12 of the bed 2 to the foot part

14 of the bed 2 could be an airbag. When the airbag is pumped up it will create the required angle of inclination of the mattress of the bed. The airbag may form part of the mattress. Alternatively, the airbag may be provided under the mattress or it may be formed as an integral part of the base of the bed.

If it is not desired to have a visible footboard 10 to the bed 2, then other stop means for stopping the mattress 4, a person or bed clothes from sliding off the foot part14 may comprise a small upstanding portion against which the mattress 4 abuts below the top of the mattress 4. The small upstanding portion may be part of an angled member, which is secured to a base of the bed 2.

Benefits

Persons sleeping on beds of the present invention are able to find beneficial health improvements. For example, if such persons should have varicose veins, then the varicose veins may disappear or greatly reduce within a few months.

Multiple sclerosis sufferers may find that they regain varying degrees of sensation and strength in various areas of their body, which have previously been damaged by the effects of multiple sclerosis on the nervous system.

Persons suffering spinal cord damage may find that they obtain increased bodily sensitivity and mobility. Such for examples, as an ability to feel when touched in the abdomen area which could previously not be felt when touched. A person might for instance regain their ability to move limbs, which they had not previously been able to move, or the ability to

avoid nightly sweats and muscular spasms and better kidney functioning as evidence by clearer urine specimens.

Persons suffering from mini strokes may find that strength and control of the affected areas improves. Persons suffering from arthritic conditions and thromboembolisms may find rapid improvement from using a bed of the invention.

Persons suffering from osteoporosis, skin and tissue ulceration and other age related complaints may also gain improvements in their health.

The beneficial effects of the bed of the present invention are believed to be caused by the bed promoting a good circulation throughout the person's body. By exposing the person to gravity in one direction throughout both day and night period. As opposed to that for example of a horizontal bed where the direction of gravity acting upon the fluids within the body is altered by sleeping or resting horizontally so as to slow down the circulation of fluids in the body.

Another beneficial affect of the invention is caused by the sheer forces, which are applied to the spine while resting in the inclined position. It may be that a twisted or curved spine may develop a more upright posture when it is used. It may also be that shrinkage of height due to ageing may be reduced and even reversed when horizontal bed rest is avoided.

CLAIMS

1 An inclined bed designed to eliminate, remove or discourage horizontal or "Traditional" bed rest, legs raised bed rest and head down bed rest from the everyday routine of a user of the invention. Accordingly, there is provided a bed comprising a mattress, 4, and means within the structure of the base, 6, for causing the mattress to slope permanently downward at an angle from the head part, 12, of the bed, to a foot part, 10, of the bed. Reference to the position of the person shown in all of the drawings hereon and described on page, 5. Figures 4, 7, 8, 9, 10, 11, of the accompanying drawings illustrate a sloping base, 6. Within the base, 6, there is provided a footboard, 14, which may be below or protrude above the top of the mattress, 4, as a means to stop the mattress or person from sliding off the bed.

2 A bed as claimed in claim 1 wherein the means for causing the mattress, 4, to slope comprises a plurality of springs, 16, within the mattress, 4. The springs being progressively smaller in height from the head part of the bed to the foot part of the bed as shown in Fig 1.

3 A bed as claimed in claims 1 and 2, wherein the bed may be one which includes a base, in which the springs, 16, are provided in the base in order to achieve the slope, as shown in Fig 2.

4 A bed as claimed in claims 1, 2 and 3 wherein an insert member, 20, comprising of a filling or fillings is inserted into the mattress, 4, in order to achieve the slope as shown in Figures 5 and 6.

5 A bed as claimed in claims 1, 2, 3 and 4, wherein an insert member, 20, comprising of a filling or fillings is inserted into the base, 6, in order to achieve the slope as shown in Figures 7 and 8.

6 A bed as claimed in claims 1, 2, 3 ,4 and 5, wherein a plurality of legs, 22, is fitted to the base, 6, of the bed, the legs, 22, being such that they decrease in height, causing the bed to slope. As shown in figures 9 and 10.

7 A bed as claimed in claim 6 wherein the plurality of legs may be adjustable. The headboard, 26, and the footboard, 14, may be fitted with adjustable joints so as to correct their vertical positions to suit the adjusted angle of the bed.

8 A sloping bed as claimed in claims 1 wherein the means for causing the base to slope is an angled frame, which could be hinged with respect to the base, 6, whereby the angled frame, is adjustable, enabling a user of the invention to increase or decrease the inclined position. With reference to page 6, paragraph 3. (Not shown in the drawings).

The Patent Office

INVESTOR IN PEOPLE

Application No: GB 9825989.8 **Examiner:** Neil Franklin
Claims searched: All **Date of search:** 5 January 1999

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.Q): A4L (LABA, LABB, LABF, LCR)

Int Cl (Ed.6): NONE

Other: Online: EPODOC, PAJ, WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	GB 2 250 189A	(NESBIT EVANS) See inclined bed of Figures 2&3	
X	GB 2 023 416A	(C E ELECTRO MEDICAL) See inclined bed of Figure 2	
X	GB 2 003 726A	(LEROY) See inclined bed of Figures	
X	US 4 312 088	(WEBB) See inclined bed of Figure 1	
X	US 4 066 293	(MEIER) See inclined chaise lounge of Figures 1,2&4	
X	US 3 808 615	(GEARY) See inclined bed of Figures 1&6	

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