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(54) Title: ORTHOPAEDIC DEVICE

(57) Abstract: The invention provides a device for use with a bed to provide an inclined back supporting sleeping surface. The device may be used as an aid in treatment of or prevention of back troubles and the device may include an incline unit that is shaped as a wedge with the thicker part of the wedge shape at the head of the bed. The unit may be configured to be inserted or wedged under a mattress.



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Title: ORTHOPAEDIC DEVICE

Technical field of the invention

This invention relates to orthopaedic devices, in particular the field of devices for assistance in dealing with, or preventing, back problems and other sleep posture related ailments.

Background to the invention

It is well known that back ailments are common in modern humankind. Initial discomfort can lead to very serious conditions which compromise the ability of the person to lead a normal life, involving prolonged severe pain levels and functional deficiency. Medical treatment which includes surgery in cases of advanced deterioration is extremely costly and physically disabling and has a rather low success rate.

The applicant found that a slightly inclined back supporting sleeping surface assists in dealing with or preventing some back ailments. The applicant is aware of some beds, such as hospital beds that provide an inclined back support to support the torso of a person in a reclined position however, these beds are complex and costly to manufacture and are not available in sizes other than single beds and is not suitable for use as a normal bed.

General description of the invention

According to one aspect of the invention, there is provided a device for use with a bed to provide an inclined back supporting sleeping surface.

Although the device may be a bed base or a mattress with an inclined back support, it is preferable that the device be separable from a mattress to allow the device to be used with any bed and to allow the device to be removed to provide a level sleeping surface, if required.

The device may be used as an aid in treatment of or prevention of back troubles and the device may include an incline unit that is shaped as a wedge with the thicker part of the wedge shape at the head of the bed. The unit may be configured to be inserted or wedged under a mattress.

Preferably the length of the unit as measured along the incline of the wedge shape is selected so as to extend from the top of the head of a person reclined on the unit to about the waist of the person. Thus a length of about 1 meter is suitable for adult use, shorter lengths may be provided for child use, although back troubles in children are rare. The length variation may be between twenty percent above and below the one meter figure, preferably between ten percent above and below.

The height of the unit may rise up to about 10 cm for optimal orthopaedic support. The height variation may be between twenty percent above and below the 10cm figure, preferably between ten percent above and below. It will be appreciated that the length and height determines an optimum angle of the inclined surface.

The width of the unit may be selected to match a standardised bed to which it is to be applied, or to a lesser width in the case of wide beds. Thus the width may be selected to fit the king, queen, double, three quarter and single bed widths that apply widely in the industry, these widths may be 164 cm, 152 cm, 137 cm, 110 cm, and 90 cm, for example.

The upper surface of the unit may be flat or planar, i.e. in cross section parallel to the incline rectilinear; however, the upper surface may be concave, as an alternative.

The unit may preferably be made to be substantially rigid.

According to another aspect of the invention, there is provided a method of providing back support to a person for sleeping purposes, which method

includes the step of inserting a device as described above under a mattress of a bed.

According to another aspect of the invention, there is provided a use of the orthopaedic device as described above to provide back support to a person for sleeping.

It will be appreciated that the device, in accordance with the invention, can be manufactured at a modest cost and can easily be matched and fitted to any bed below a mattress without the need to modify the bed or mattress and provide the same orthopaedic advantages as a hospital bed set at the same incline for sleeping purposes.

Detailed description of the invention

The invention is more fully described by way of example, with reference to the drawings, in which : -

Figure 1 is a side view of a unit,

Figure 2 is a side view of an alternative unit with a mattress on it,

Figure 3 is a side view of a bed with a unit on it and a mattress on top.

THE PREFERRED EMBODIMENTS

As shown in figure 1 the unit 1 is wedge shaped, with a base 2, top surface 3, thick end 4 and thin end 5. The unit has a length of 1 meter, a height of 10 cm at the thick end and 1 cm at the thin end, the width suits the bed on which it is put or which is required. The unit is made of board, such as compressed wood chip board, glued and screwed together, giving lightness, strength and rigidity.

As shown in figure 2, the unit may have a concave top surface 6. This view also shows a mattress 7 resting on top of the unit with a pillow 8, merely for illustrative purposes of the mode of use.

Similarly figure 3 shows the unit 9 atop a bedstead 10 with a mattress 11 on the unit and bed and a pillow 12. This view shows how the unit extends over about half the length of the bed, which is a feature of the invention.

It shall be understood that the example is provided for illustrating the invention further and to assist a person skilled in the art with understanding the invention and is not meant to be construed as unduly limiting the reasonable scope of the invention.

REFERENCE NUMERALS

- | | |
|----|-----------------|
| 1 | unit |
| 2 | base |
| 3 | top |
| 4 | thick end |
| 5 | thin end |
| 6 | concave surface |
| 7 | mattress |
| 8 | pillow |
| 9 | unit |
| 10 | bedstead |
| 11 | mattress |
| 12 | pillow |

Claims

1. A device for use with a bed to provide an inclined back supporting sleeping surface, which device includes an incline unit that is shaped as a wedge with the thicker part of the wedge shape at the head of the bed, in use.
2. A device as claimed in Claim 1, wherein the unit is configured to be inserted under a mattress.
3. A device as claimed in Claim 2, wherein the length of the unit as measured along the incline of the wedge shape is selected so as to extend from the top of the head of a person reclined on the unit to about the waist of the person.
4. A device as claimed in Claim 3, wherein the length of the unit as measured along the incline of the wedge shape is selected to be 10 percent above or less than one meter.
5. A device as claimed in any one of the previous claims, wherein the height of the unit rises up to about 10 cm.
6. A device as claimed in any one of the previous claims, wherein the width of the unit is selected to match a standardised bed to which it is to be applied, or a lesser width.
7. A device as claimed in any one of the previous claims, wherein the upper surface of the unit is flat.
8. A device as claimed in any one of the previous claims, wherein the unit is made to be substantially rigid.
9. A method of providing back support to a person for sleeping purposes, which includes the step of inserting a device as claimed in any one of claims 1 to 8 under a mattress of a bed.

10. A device, substantially as herein described with reference to the accompanying drawings.

11. A method of providing back support to a person for sleeping purposes, substantially as herein described with reference to the accompanying drawings.