

June 9, 1964

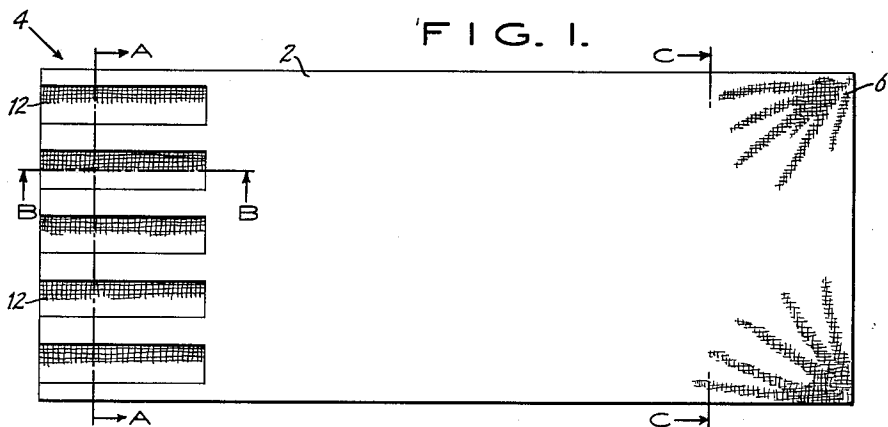
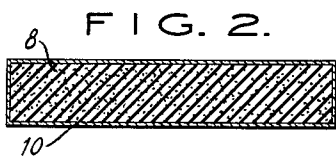
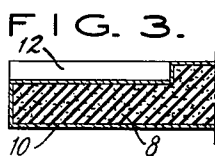
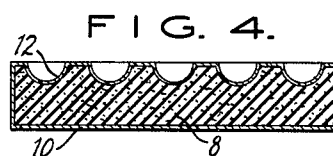
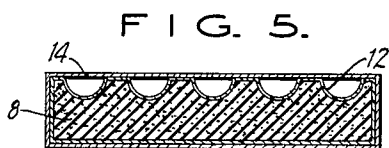
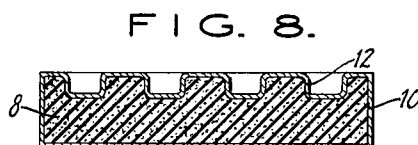
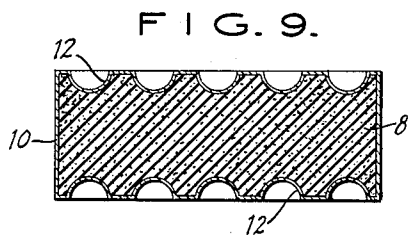
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3,135,974

FACE REST MATTRESS

Filed Oct. 11, 1961

2 Sheets-Sheet 1



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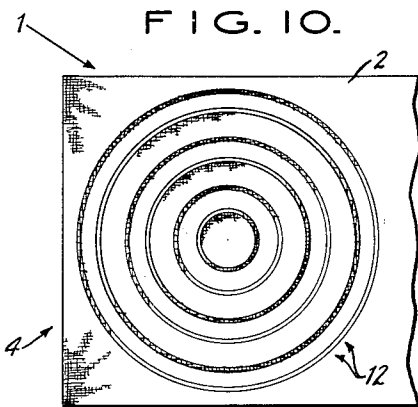
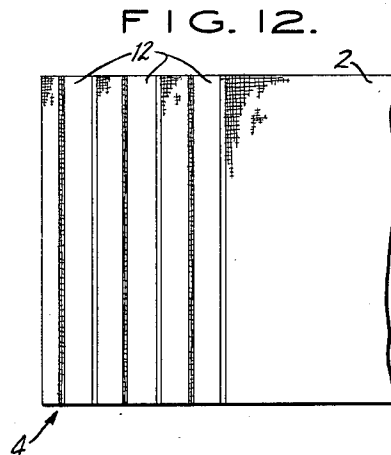
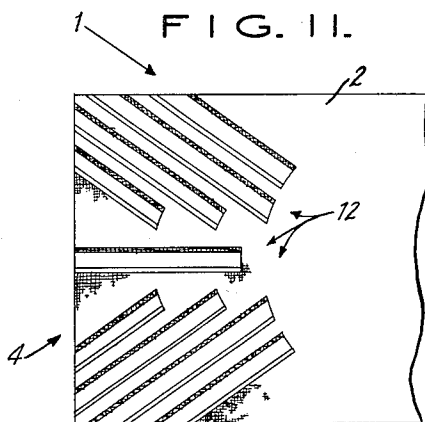
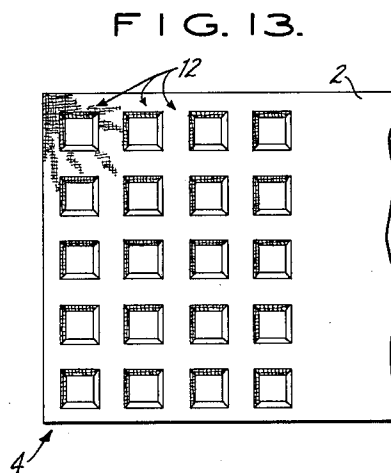
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FACE REST MATTRESS

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2 Sheets-Sheet 2



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FACE REST MATTRESS

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11 Claims. (Cl. 5—345)

This invention relates to therapeutic mattresses for beds and the like, and more particularly to a mattress for people who sleep or rest face downward.

Many persons prefer to sleep in a prone, or face down position, and there are others who find it necessary to sleep in a prone position to relieve certain abnormal strains and tensions of the body, particularly in the neck and back.

Heretofore, it has been difficult for many persons to sleep in a completely prone position, since the head must be turned to one side in order to provide for normal breathing, or a pillow must be used to raise the head and alleviate pressure on the nose and mouth and provide breathing space. In the former case, a proper prone position is not achieved because of the twist in the neck, while in the latter case, the neck is bent back in an awkward and uncomfortable manner that makes complete relaxation impossible.

In addition, there have been many cases of infants requiring special prone positions for sleeping, but this is a situation fraught with danger, as the infant may spit up food and have difficulty in breathing. In cases like this, suffocation is an ever-present danger.

The primary object of this invention is to provide a mattress for face down or prone sleeping, wherein means is provided to allow free and normal breathing.

Still a further object of this invention is to provide a mattress adapted to assure a fresh air supply to the sleeper at all times.

The foregoing and other objects and advantages of this invention will become clear to those skilled in the art from the following description, when read in conjunction with the attached drawings, in which:

FIGURE 1 is a plan view of the mattress embodying the principles of the present invention;

FIGURE 2 is a sectional view of the same, taken at C—C of FIGURE 1;

FIGURE 3 is a sectional view of the same taken at B—B of FIGURE 1;

FIGURE 4 is a sectional view of the same taken along the line A—A of FIGURE 1;

FIGURE 5 is a view similar to FIGURE 4, but shows a modified embodiment of the head portion of the mattress;

FIGURE 6 is a view similar to FIGURE 4 showing another embodiment of the head portion of the mattress;

FIGURE 7 is a view similar to FIGURE 4 showing still another embodiment of the head portion of the mattress;

FIGURE 8 is a view similar to FIGURE 4 showing still another embodiment of the head portion of the mattress;

FIGURE 9 is a cross sectional view of still another embodiment of the head portion of the mattress;

FIGURE 10 is a plan view of another embodiment of the therapeutic mattress;

FIGURE 11 is a plan view of still another embodiment of the mattress;

FIGURE 12 is a broken off plan view showing still another embodiment of the head portion of the mattress; and

FIGURE 13 is a broken off plan view showing yet another embodiment of the head portion of the mattress.

In the drawings, the mattress is generally indicated at 2 and is of conventional overall proportion having a head end 4 and a foot end 6.

2

The mattress may be of any conventional internal construction, such as inner spring, foam rubber, isocyanate foam, and the like. For purposes of illustration, the mattress shown in the drawings is of foam rubber construction, the cushion material of which is designated 8. The cushion material is covered by a suitable material 10, such as cloth.

The head end 4 of the mattress contains a plurality of indentations or corrugations for air circulation such as slots or grooves 12 spaced across the mattress and extending from the head of the mattress in the direction of the foot to a distance equal to about 0.1 to 0.33 times the length of the mattress. Ordinarily the indentations will vary from about 0.5 to 2 feet in length.

The indentation may take the form of elongated slots or grooves, having a variety of cross sectional shapes, such as circular (FIGURES 4 and 5), sinusoidal (FIGURE 6), angular (FIGURE 7), and rectangular (FIGURE 8). Other shapes will readily suggest themselves to those skilled in the art.

The slots or grooves may have a width at the upper surface of from about 1½ to 5 inches, and a depth of from about 1½ to 3 inches or more. The spacing between the slots or grooves can be variable, although generally the space between the indentations will be less than the width of the sleeper's face, and generally less than about 4 inches.

The spacing of the indentations may be regular or irregular, although generally it will be regular.

The slots or grooves are preferably arranged parallel to one another and have axi parallel to the sides of the mattress as shown in FIGURE 1. This is, however, not necessary, and other configurations may readily be envisaged. In FIGURE 10, for example, the grooves 12 are arranged in a series of concentric circles. In FIGURE 11, the grooves are arranged in a fan-shaped pattern, and at least some of the grooves have longitudinal axi which forms an acute angle with the sides of the mattress.

In FIGURE 12, the grooves extend horizontally from side edge to side edge of the mattress in a direction transverse to the side edges and parallel to the end edges of the mattress.

The grooves need not be continuous, but may be discontinuous, as shown in FIGURE 13. In FIGURE 13, the plurality of discontinuous indentation 13, although shown as rectangular in cross section, may be a variety of other suitable shapes. As also shown in FIGURE 13, these indentations may also form a waffle-like pattern.

In another embodiment of the invention shown only by the cross sectional view of FIGURE 5, a porous elastic web or corrugated elastic webbing 14 may be superimposed over the head end of the mattress across the indentations 12 and affixed to the mattress at its sides. This web will flex under pressure from the sleeper's head and will facilitate making of the bed without interfering with circulation of air through the slots or grooves 12.

When the webbing is not used, the mattress cover 10, rather than following the contour of the indentations, as shown in the drawings, can be stretched over the indentations in the same manner as the web of FIGURE 5. In this embodiment, care should be used to insure that porous fibers for the mattress cover are employed.

If desired, the head end of the mattress containing the indentations may form an angle such as from about 1 to 30°, with the main body of the mattress, thereby enabling the head of the sleeper to be elevated with respect to his feet.

Although in the embodiments shown, the slots or grooves extend clear to the edge of the mattress, this is not necessary, and, if desired, the slots and grooves can end a short distance from the actual edge of the mattress.

Preferably, however, the indentations are co-terminous with the edge of the mattress.

Also, if desired, the indentations can be provided on both sides of the mattress, to enable the mattress to be regularly turned with use, as is shown in FIGURE 9.

It will be understood that beds using the mattresses shown herein may be made in the conventional way with conventional bed clothing and sheets, and do not require costly special sheets or bed clothing. The sheets may be stretched over the mattress, including the head portion thereof. Because of their porosity, little interference with circulation of air into and out of the grooves is occasioned by the sheeting material. Of course, if thick mattress padding is employed, this should not cover the indentations at the head end of the mattress.

Regardless of the shape of the indentations, these should be gently rounded at their upper surfaces so as to avoid sharp edges, as is shown in the drawings.

The invention in its broader aspects is not limited to the specific article of manufacture shown and described herein, but departures may be made within the scope of the accompanying claims without departing from the principles of the invention and without sacrificing its chief advantages.

What is claimed is:

1. A mattress adapted to provide for normal breathing in a prone position comprising a mattress of conventional construction material having front and back major faces and edge surfaces, said major faces being substantially planar and being parallel to and spaced from each other, said edge surfaces extending between and generally normal to said major faces, at least one of said major faces containing at its head end a plurality of corrugations for air circulation, said corrugations being spaced across said major face and extending from said major face partially into the mattress construction material a distance such that there is a substantial thickness of non-corrugated mattress construction material below the corrugations.
2. The mattress of claim 1 wherein the corrugations for air circulation project into the mattress construction a distance of between about 1 and 3 inches.
3. The mattress of claim 1 including a mattress cover

conforming to the shape of the mattress and the corrugations.

4. The mattress of claim 1 including a cover which is stretched over the corrugations so as to provide elongated hollow passageways between the cover and the corrugations.

5. The mattress of claim 1 and including an elastic web stretched over the corrugations so as to provide elongated hollow passageway between the web and the corrugations.

6. The mattress of claim 1 wherein the corrugations are parallel, elongated grooves extending into the mattress construction and having longitudinal axis parallel to the sides of the mattress.

7. The mattress of claim 1 wherein the corrugations are in the form of concentric grooves extending into the mattress construction.

8. The mattress of claim 1 wherein said corrugations extend from both major faces into the mattress construction material, there being a substantial thickness of non-corrugated mattress construction material centrally located between the major faces of the mattress to thereby permit turning of the mattress.

9. The mattress of claim 1 wherein the corrugations are in the form of grooves arranged in a fan-shaped pattern, at least some of said grooves having longitudinal axis which form an acute angle with the edge surfaces of the mattress.

10. The mattress of claim 1 wherein the corrugations extend from the head end to the foot end a distance of between about 0.1 and 0.4 times the length of the mattress.

11. The mattress of claim 1 wherein the corrugations are elongated grooves extending into the mattress construction, at least some of which have longitudinal axis forming an acute angle with the sides of the mattress.

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