Nov. 17, 1953

M. O. LEWIS

2,659,365

THERAPEUTIC APPARATUS

Filed Dec. 1, 1951

FIG. 1

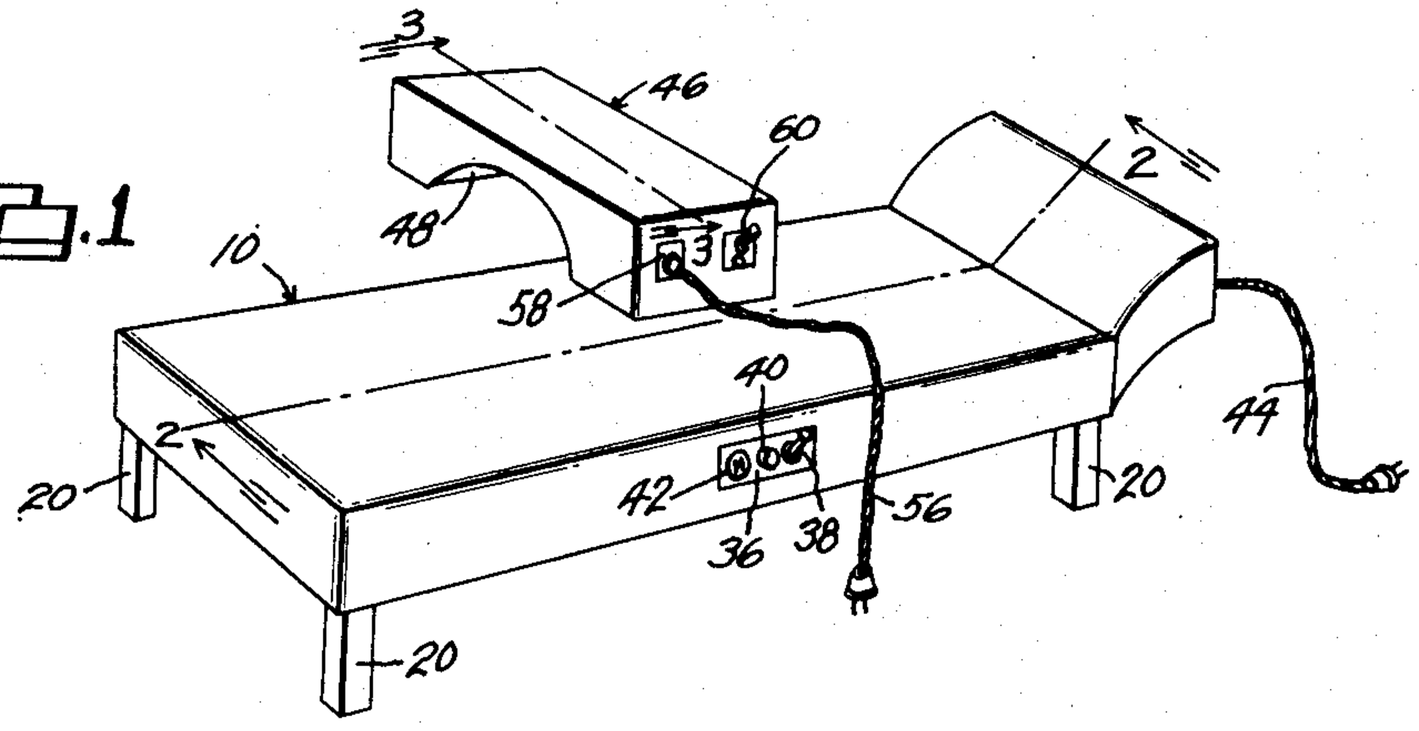


FIG. 2

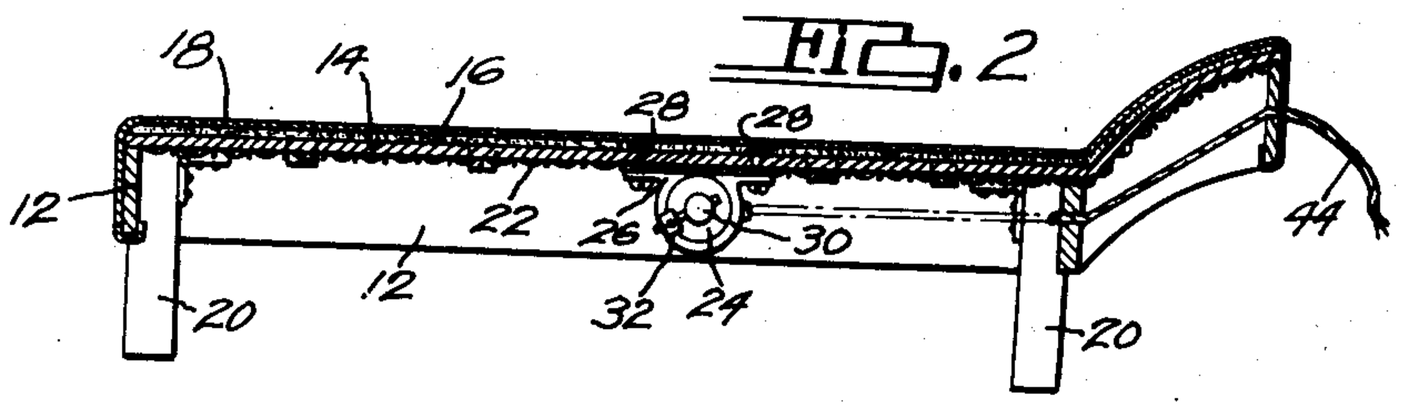
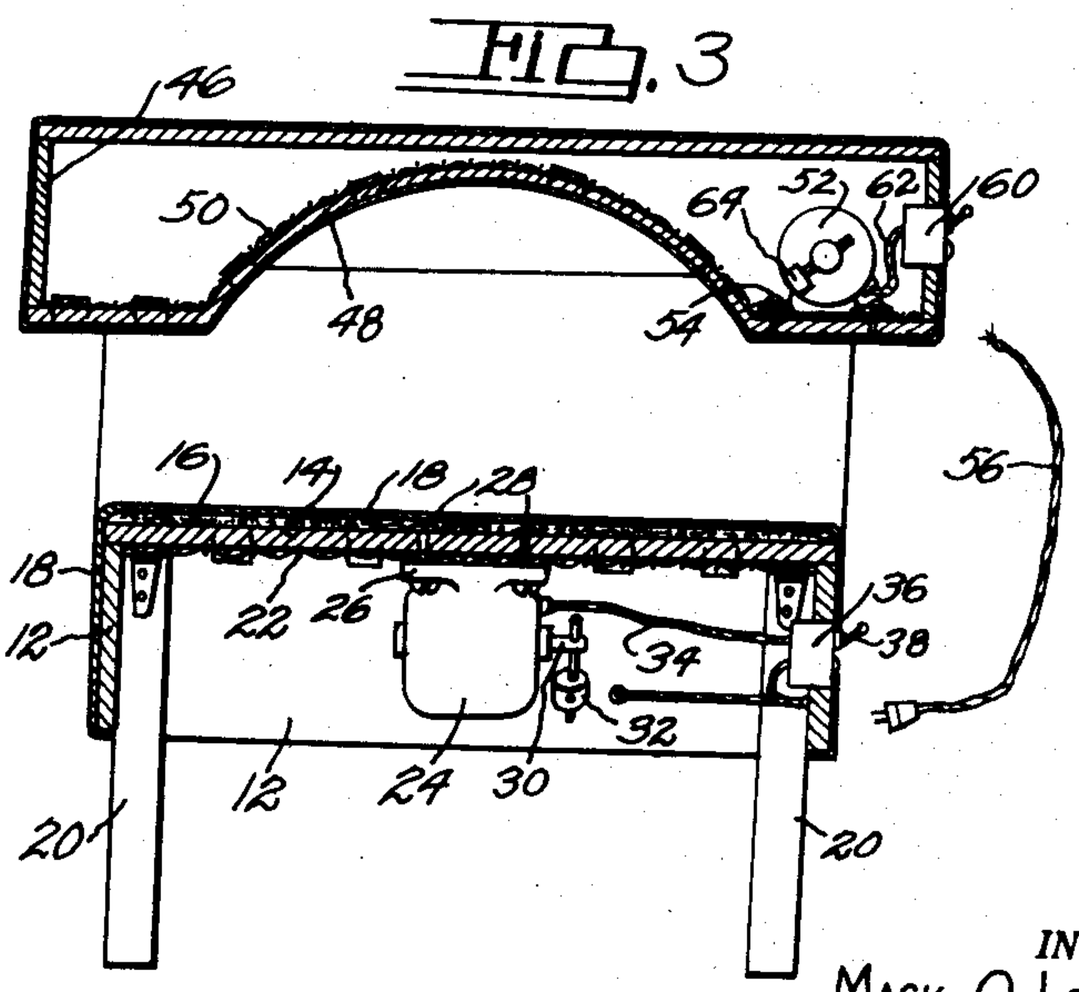


FIG. 3



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THERAPEUTIC APPARATUS

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2 Claims. (Cl. 128—33)

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This invention relates to a therapeutic apparatus and more particularly to a vibrating device embodied in a cot or the like for supporting the body of a person in a lying position.

It is an object of the invention to provide a structure which will transmit localized vibrations over an extended area, such as the entire surface of a bed or cot, whereby the vibrations are equally and evenly distributed to all parts of the body when the user is in a reclining position on the upper surface of the cot.

It is another object of the invention to provide a vibrating bridge structure, associated with the vibrating cot, for resting upon the user's body so that the vibration impulses are transmitted to opposite sides of the body.

A further object of the invention is to provide a solid sheet member, such as a plywood board, with a metallic screen attached to one surface thereof, and to attach directly to the metallic screen an electrically driven motor having an eccentrically mounted weight on the rotatable shaft of the motor.

Other objects and advantages of the invention will more fully appear from the following description taken in connection with the accompanying drawings, in which:

Fig. 1 is a perspective view of a cot showing the vibrator bridge associated therewith embodying the invention;

Fig. 2 is a longitudinal sectional view through the cot, taken on line 2—2 of Fig. 1, showing the vibrator motor applied to the supporting structure; and

Fig. 3 is a transverse sectional view through the cot and its associated vibrator bridge, taken on line 3—3 of Fig. 1, shown on a larger scale.

Referring to the drawings, I have shown a cot 10 having a rectangular frame structure 12, to which is applied a single piece cover 14, such as plywood material. The frame 12 and cover 14 form an inverted boxlike structure. The upper surface of the cover 14 may be padded, as shown at 16, and the top and frame are covered by a suitable upholstery material 18, such as fabric, leather or the like.

Legs 20 are hinged to the frame 12 for supporting the latter and may be folded into the box frame for convenience.

The under surface of the cover 14 is provided with a metallic screen 22, secured thereto by tacks or staples. This screen covers the entire under surface of the cover and is rigidly secured thereto at close intervals so that there can be little or no vibration between the screen and cover.

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This screen may be woven metallic strands or it may be the staggered cut and stretched metal sheet commonly used as a substitute for building lath.

The metallic wire screen 22 imparts vibrations longitudinally through the entire length of the individual strands of the screen to all parts of the cover 14. The screen is tacked to the cover at close intervals so that at each tacking point there is a rigidity between the screen and that portion of the cover. The metallic screen imparts the vibrations from one tacking point to the other. Without the use of the screen the vibrations produced by the motor would be absorbed in the cover in the region of the motor before they were transmitted to the full area of the cover. The metallic screen conducts the vibrations to all parts of the cover.

An electric motor 24, having a base 26 is rigidly secured to the under side of the cover 14 by screws or bolts 28 passing through the screen 22 and secured to the cover 14. The motor 24 is in tight contact with the screen 22. The armature shaft 30 of the motor 24 is provided with a weight 32 extending radially from the axis of the shaft 30. When the shaft 30 is rotated the eccentric weight produces vibrations which are transmitted through the motor base to the screen 22 and through the screen to localized points on the cover 14. If desired the weight may be adjusted radially of the shaft. It is important to use a single piece of material for the cover, to firmly secure the motor and screen to the cover so that the vibrations are evenly distributed over the entire area of the cover.

An electrical conductor 34 is provided from the motor 24 to a panel 36 at one side of the frame 12. This panel is provided with a switch 38, circuit indicator light 40, and a plug socket 42. An input electric cord 44 extends through the end of the frame, along the side of the frame, to the switch panel 36 where it is connected to the plug socket 42. The light 40 is in series with the switch 38 which controls the current to the motor 24. By this arrangement the light indicates when the motor current is on.

The bridge structure comprises a frame 46, substantially in the shape of a rectangular box, having a concave portion 48 in its lower surface for fitting over the body of the user. The lower arched surface, on its upper surface has a screen 50 firmly secured thereto. An electric motor 52 is positioned directly on the screen 50 and is secured to the frame 46 by bolts or screws 54. An input electrical conduit is removably received

in a socket 58 which leads to a combined indicator light and switch box 60. An electrical lead 62 runs from the switch to the motor 52. The electrical current may be supplied to the switch 60 and motor 52 from any input socket or may be supplied from the socket 42 when the connection 44 is attached to an input socket. Either one of the vibrating bridge or vibrating cot may be used individually or simultaneously by control of the switches 38 and 60. The motor 52 is provided with an eccentric weight 64 which imparts vibrations to the screen 50 and arched base 48.

It has been found that a desirable material for use as a covering for both the bridge and the cot is foam rubber or rubberized hair. Both of these materials are excellent for transmitting the motor vibrations to the body of the user.

The vibrations transmitted to the body stimulate circulation to overcome congestion which may have resulted from over exertion or from a cramped position. It is intended that the vibrations be transmitted to all parts of the body when the user is lying on the cot, and by use of the bridge device, operable in conjunction with the cot, the vibrations may be transmitted in opposite directions to both sides of the body.

I have illustrated and described herein a preferred form of the invention, but it is to be understood that various changes, including the size, shape, and arrangement of parts may be made without departing from the spirit of my invention and it is not my intention to limit its scope other than by the terms of the appended claims.

I claim:

1. Therapeutic apparatus comprising, a base, a single piece of solid sheet material fixed to said base, a metallic screen rigidly fixed at spaced intervals to said sheet member extending over substantially the entire area of one face of said sheet member, an electric motor having a rotatable shaft, said motor being secured to said sheet member in direct contact with said screen, and an eccentrically mounted weight on the shaft of said motor.

2. A vibration producing apparatus having a base plate provided with a concave central portion, a screen rigidly fixed at spaced intervals to the surface of the entire area of said base plate, an electrical motor having a rotatable shaft, said motor being in direct contact with said screen, and an eccentrically mounted weight on said shaft.

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