

Sept. 16, 1958

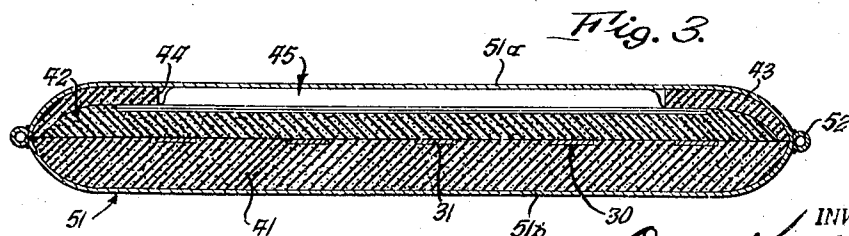
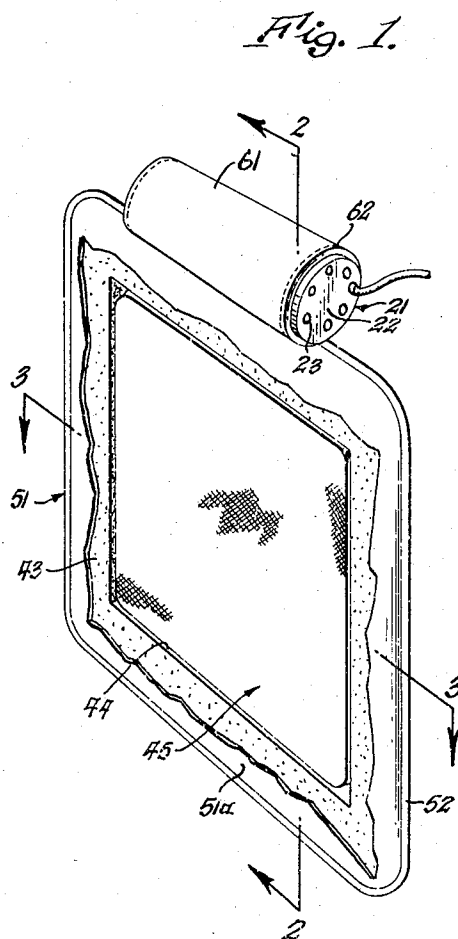
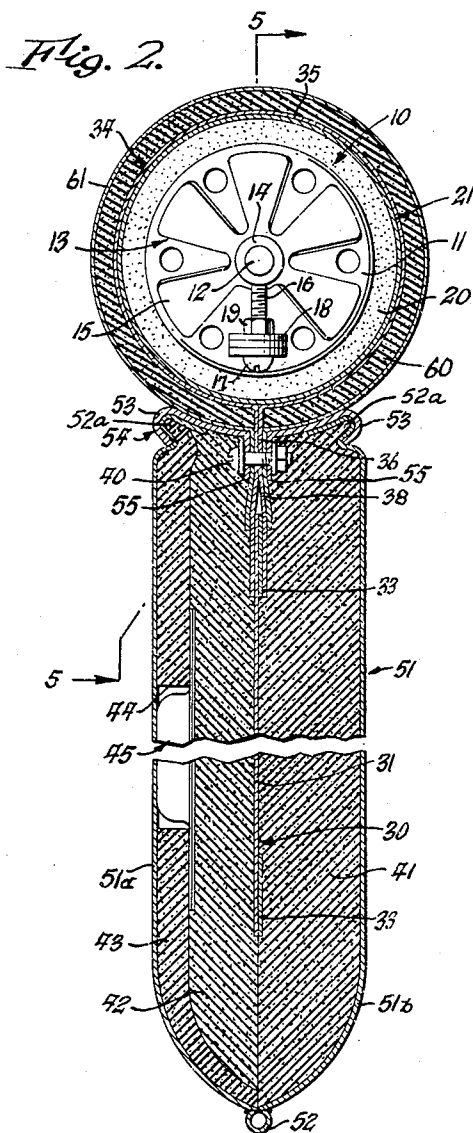
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2,852,020

MOTOR DRIVEN KINESITHERAPY DEVICE

Filed Feb. 13, 1956

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

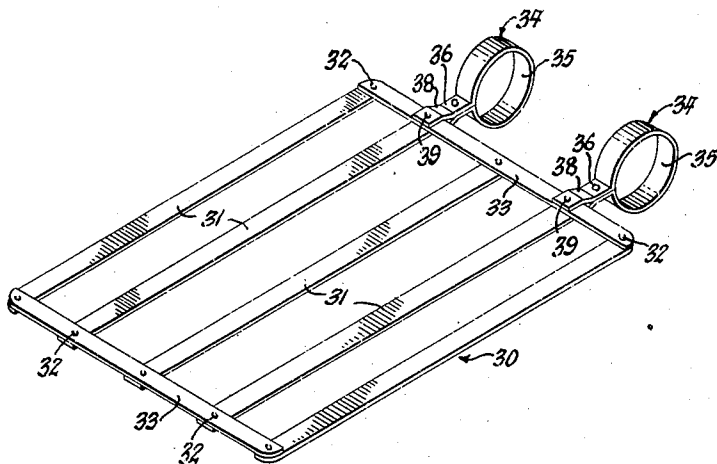


Fig. 4.

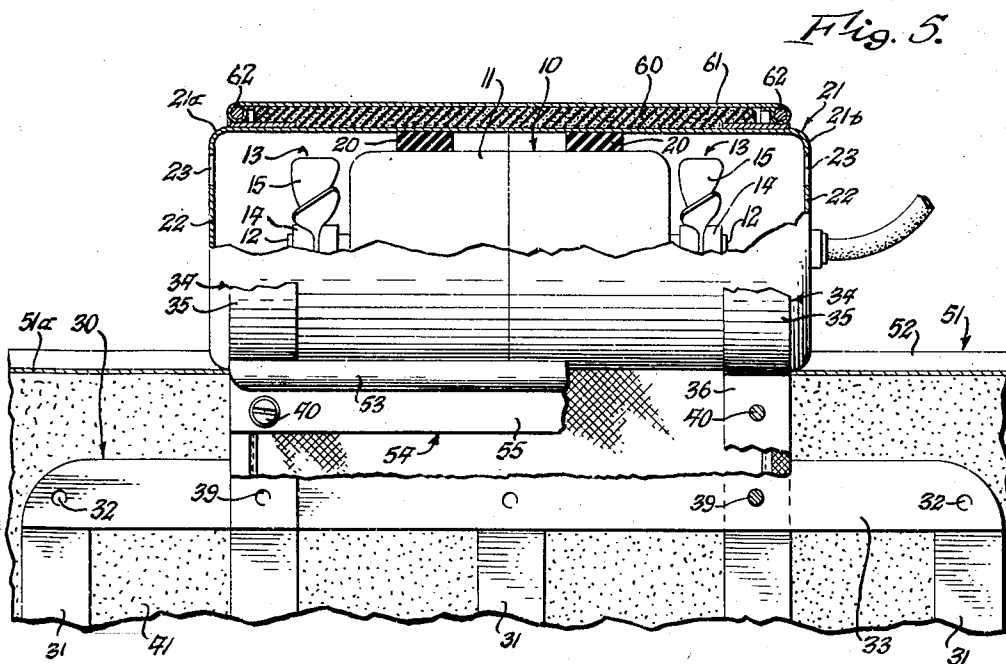


Fig. 5.

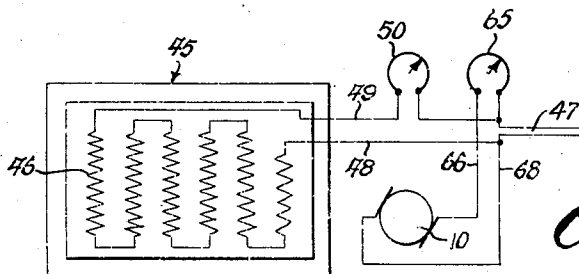


Fig. 6.

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MOTOR DRIVEN KINESITHERAPY DEVICE

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Application February 13, 1956, Serial No. 565,225

11 Claims. (Cl. 128—24.1)

This invention relates to a motor operated kinesitherapy device having generally the form of a relatively thin pad, cushion, mattress or mattress pad equipped with a motorized applicator and a structure for transmitting gyratory motion generated by the applicator throughout substantially the entire area of the pad, cushion, mattress or mattress pad so as to impart massage action to a human body resting upon or reclining against the cushion, pad, mattress or mattress pad.

This application is a continuation in part of my copending application Serial No. 450,387, filed August 17, 1954, now Patent 2,833,276.

An object of this invention is to provide certain improvements in these motor driven kinesitherapy devices wherein means are provided for connecting the upper ends of the body supporting panels of the covering envelope to the motion transmitting structure within the cushion so that these panels are maintained in relatively taut condition, and so that the clamp means which connect the motor containing shell to the motion transmitting structure are made conveniently accessible for removal and replacement of the motor assembly.

Another object of the present invention is to provide a therapeutic cushion which combines the application of sensible heat with gyratory massage action, thereby to effect an increase in temperature in both the muscular and subcutaneous tissue of the human body subjected to the gyratory massage action.

Another object of this invention is to provide a therapeutic cushion in which the heat source is supplied by a resistance heating element positioned directly adjacent the inside face of the body supporting cushion covering, and served by the same power lines which serve the motor driven applicator.

Another object is to provide means for separately regulating the gyratory massage action generated by the motor driven applicator and the heating effect produced by the resistance heating element so that they can be separately and independently adjusted to obtain the maximum analgesic sedation or alerting effect and maximum effect in decreasing muscular spasm and decreasing muscular tightening from various causes, and improving blood circulation.

Another object is to provide a therapeutic cushion in which the resistance heating element is positioned closely adjacent to the body supporting cushion covering, with efficient heat transfer to the body supported thereon, and with the heating element protected and fully insulated from the motion transmitting structure contained within the cushion.

Other objects and advantages of the invention will be apparent from the following description and drawings in which:

Fig. 1 is a perspective view of a pad or cushion embodying the present invention, certain parts of the covering envelope being broken away to reveal the heating element in the cushion.

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Fig. 2 is an enlarged longitudinal section taken generally along line 2—2 of Fig. 1.

Fig. 3 is an enlarged transverse section taken along line 3—3 of Fig. 1.

Fig. 4 is a perspective view of the motion transmitting structure through which gyratory motion from the applicator is transmitted throughout the cushion.

Fig. 5 is a fragmentary sectional view taken generally along line 5—5 of Fig. 2 with parts broken away to disclose particular structural features.

Fig. 6 is a wiring diagram of the electrical components of the cushion.

In the form of the invention illustrated in the drawings, the gyratory motion is generated by a variable speed motor 10 having a stationary part which includes a generally cylindrical casing 11 and a rotary part which includes a motor shaft 12. A fan 13 is mounted on each end of the motor shaft 12, the blades 15 of these fans being shaped to move air longitudinally through the casing 11 of the electric motor for the purpose of cooling the same. Each fan includes a hub 14 from which its blades 15 radiate, and screwed into each of the fan hubs 14 is a screw 16 which projects radially and has a head 17 at its outer end. One or more weights 18 are carried by each of the screws 16, these weights being preferably of washer-like form and held against the corresponding screw head 17 by a lock nut 19. The screws 16 may be arranged in substantially the same plane to project in substantially the same direction so that the screws 16 and their weights 18 are cumulative in their gyrational effect on the motor as a function of its operation.

A pair of spaced rubber rings or resilient cushion elements 20 surround the opposite ends of the motor casing 11. The rubber rings are preferably cemented to the motor casing and provide resilient radial extensions thereof.

The rings 20 are compressed within a cylindrical metal shell or housing 21 which may be composed of two bell-shaped halves 21a and 21b arranged in edge-to-edge relation with each other and being held in this relation by the rubber rings 20 and the motor casing 11. Each of the halves has its head wall 22 provided with holes 23 of sufficient size and number to allow the fan blades 15 to draw an adequate amount of cooling air axially through the shell 21 and the motor contained therein.

The gyratory movement of the eccentrically weighted motor 10 is transmitted throughout substantially the entire area of the pad or cushion by a metal core section, indicated generally at 30. This motion or action transmitting core section is formed by a plurality of longitudinal and flexible metal bands or straps 31 which are connected together, as through weldments 32, by cross straps 33, similarly made of metal. The cross straps 33 are welded in face-to-face relation with the longitudinal straps 31 and hence it will be seen that the metal straps 31 and 33 provide a core section 30 which is highly flexible in a direction normal to the common plane of the metal straps 31 and 33 but is rigid in a direction parallel to this common plane.

This metal core section 30 is connected to the shell 21 by a loop section which may comprise a pair of spaced metal loop straps 34. Each of these loop straps includes a cylindrical portion 35, the ends 36 of which abut each other and thence project outwardly to provide flange portions 38 which embrace the endmost cross strap 33 as well as the end of the adjacent longitudinal strap 31. Each flange portion 38 can be secured to these metal straps 31, 33 by weldments 39, and the cylindrical portions 35 are brought into tightly embracing relation with

the motor shell 21 by a pair of clamp plates 55 and clamp bolts 40.

The longitudinal straps 31 and cross straps 33 are sandwiched between a pair of soft, resilient rubber pads 41 and 42, the back pad 41 of which is of substantially greater thickness than the front pad 42. The pads 41 and 42 are made of highly resilient and cellular rubber or rubber-like material generally referred to as sponge rubber. These pads 41 and 42 are preferably adhesively secured to each other and to the metal straps 31, 33. In addition, the front pad 42 has a frame shaped sponge rubber pad 43 as shown in Figs. 1, 2 and 3 which is adhesively bonded to the outer face thereof, the pad 43 having a large rectangular opening 44 extending there-through. In the chamber or pocket formed by this opening is a flexible electrical heating pad indicated generally at 45. This heating pad can be of any suitable conventional form and contains a resistance heating element 46. One terminal 48 of this heating pad connects directly with one side of the power line 47 as shown in Fig. 6, and the other terminal 49 is connected through a rheostat 50 with the other side of the power line 47.

The sponge rubber pads 41, 42 and 43, as well as the heating pad 45 and core section 30 compactly sandwiched between the pads 41 and 42, are enclosed within a casing or covering envelope 51 preferably made from upholstery material such as natural or synthetic rubber.

The covering envelope 51 may be composed of two facing panels 51a and 51b whose side and bottom margins and a portion of their top margins are secured together by welting or beading 52 to snugly enclose the resilient rubber pads 41, 42 and 43. As shown in Figs. 1, 2 and 5, the upper edges of the covering panels 51a and 51b adjacent the motor containing shell 21 are each provided with edge beading 52a which is gripped by the rolled rim 54 of a clamp plate section 53. Each clamp plate section 53 may be formed as an integral part of the adjacent clamp plate 55 and extends laterally therefrom. The rolled edges 54 of the clamp plate sections 53 maintain the covering envelope 51 tautly drawn over the resilient cushioning pads 41 and 43 contained therein, and since they are also subjected to gyratory motion by reason of their connection to the motion transmitting structure, the rolled rim plate sections 53 operate to transmit gyratory motion directly to the covering panels 51a and 51b. The shell 21 containing the gyratory motor 10 can be covered to provide a roll shaped cushion part adapted to massage the occupant's neck and head. This covering includes a resilient sponge rubber pad 60 which embraces the housing or shell 21 and extends over the two clamping straps 34. This sponge rubber pad is in turn embraced by a rectangular cover 61, preferably of artificial or natural leather or upholstery fabric to match the covering envelope 51. The opposite ends of the rectangular cover 61 are brought together at the bottom of the housing 21 and clamped between the clamp plate sections 55 to thereby draw the roll shaped covering 61 snugly around the resilient cushioning pad 60. It will be noted by referring to Fig. 2 that the covering envelope beadings 52a can be manually disengaged from the rolled edges 54 of the clamp plate sections 53 to give access to the clamp bolts 40, which when withdrawn, will loosen the embracing straps 54 so that the motor containing shell 21 can be conveniently removed. The cylindrical ends of this cover can be beaded, as illustrated at 62.

The motor 10 is controlled by a rheostat 65, one line 66 from this motor being connected through this rheostat to one side of the main power line 47, while the other line 68 from the motor 10 is connected to the other side of the main power line 47 as shown in Fig. 6.

In the operation of the kinesitherapy device, rotation of the eccentrically weighted shaft 12 imparts a gyratory movement to the rotary part of the motor 10, which in turn imparts a gyratory movement to the casing 11 or relatively stationary part of this motor. This gyratory

movement is transmitted through the rubber rings 20 to the cylindrical shell 21. These rubber rings form soft, resilient cushion elements and are interposed under stress between the stationary part 11 of the motor and the cylindrical wall of the shell 21, and serve as the sole and floating support for the gyratory motor 10 so that the rotation of the unbalanced rotary part 12 and 18 causes a gyratory bodily movement of the motor in a closed-loop path which is transmitted through these cushion elements 20 to the housing or shell 21. The gyratory motor 10 thus possesses a predetermined, mechanical, rotary unbalance of substantial amount well in excess of any accidental unbalance due to inaccuracy in manufacture.

From the shell 21, this gyratory motion is transmitted through the resilient pad 60 and upholstery covering 61 of the shell and is also transmitted through the motion transmitting core section 30 composed of the longitudinal and transverse metal bands or straps 31 and 33. The core section 30 executes a substantial gyratory movement as defined by a closed loop path of generally elliptical form whose major axis of movement extends longitudinally of the core section and whose minor axis of movement extends in a direction perpendicular to the face of the core section. This gyratory movement is transmitted from the core section 30 through the rubber pads 41, 42 and 43, heat pad 45 and covering envelope 51 to the body of the person reclining on or against the cushion.

The speed of the electric motor and hence the frequency of the gyratory motion produced is determined by the setting of the speed control rheostat 65.

A particular feature of the present invention resides in the provision of the heating pad 45 having the resistance heating element 46 connected in series with the rheostat 50. With this heating pad, in addition to the gyratory action produced by the eccentrically weighted motor 10, the external face of the cushion covering panel 51a applied to the body of the user can be heated to any temperature desirable to augment the therapeutic effect of the gyratory action of the cushion.

Extensive clinical work with the kinesitherapy action of motor operated massage cushion constructed in accordance with this invention, but without the heating pad, has demonstrated its value in the local acceleration of blood flow. Without the heating pad, an increase in skin temperature was found as a result of such improved circulation, and in some cases an increase in subcutaneous tissue temperature was found, but the latter was not regarded as significant. Nor was a significant increase in muscle temperature found when these massage cushions were used which did not contain the heating pad 45. However, clinical work demonstrated a marked relaxation of muscle spasm or tightening from the kinesitherapy feature of these massage cushions. At slow motor speeds the kinesitherapy action of the massage cushions was found to have a sedative effect and at higher motor speeds was found to be effective in alerting the user as well as in relaxing muscle spasm and to have an analgesic effect in decreasing pain in such a situation. The inability of the kinesitherapy action produced by these motor operated massage cushions which contained no heating pad, to raise muscle temperature and in most cases to effect any significant increase in subcutaneous temperature, is overcome by providing the massage cushion with a heating pad by which sensible heat, of the required value for the particular condition encountered, can be provided by the resistance heating element in the heating pad which may extend over substantially the entire localized area subjected to the kinesitherapy action. The heating pad 45 contained within the cushion is close to the body of the user; isolated mechanically, electrically and thermally from the metal structure which generates and transmits the gyratory action; may be served by the same power cord which serves the gyratory motor 10; and the heating pad 45 can be regulated independently of the motor which

generates the gyratory movement, so that any combination of motor speed and heating temperatures can be employed. The term sponge rubber, which forms the cushioning pads as above described, is a commonly used term to connote cushioning material known in the art and formed from foam rubber latex or various synthetic rubbers of high resiliency and which have the characteristic of immediately returning to fully expanded condition when pressure is removed therefrom.

The term "cushion" as used in the claims is intended to embrace cushions, pads, mattresses and mattress pads of any desired length, width and thickness dimensions. It will also be evident to those skilled in the art that various changes and modifications can be made, and the invention is therefore not to be construed as limited to the particular structure shown but embraces the full range of equivalents comprehended by the claims.

I claim:

1. A therapeutic cushion including in combination, a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a predetermined rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture whereby gyratory motion is transmitted to said stationary motor part, a cushion section including a pair of resilient cushioning pads formed of highly resilient rubber-like composition extending laterally from said stationary motor part in a direction normal to the longitudinal axis thereof, a motion transmitting member rigidly connected to said stationary motor part and compactly sandwiched between said cushioning pads and embracing an area which is more than one-half the area of said cushioning pads whereby gyratory motion produced by said motor is transmitted to said pads, a covering envelope enclosing said motion transmitting member and resilient cushioning pads and fitted to maintain said cushioning pads in motion transmitting contact with said motion transmitting member, a pair of plates adjacent said stationary motor part rigidly connected to said motion transmitting member and extending laterally therefrom, and means for securing said plates to the adjacent transverse ends of said covering envelope.

2. A therapeutic cushion including in combination, a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a predetermined rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture whereby gyratory motion is transmitted to said stationary motor part, a loop section embracing said motor, a cushion section including a pair of resilient cushioning pads formed of highly resilient rubber-like composition extending laterally from said stationary motor part in a direction normal to the longitudinal axis thereof, a motion transmitting member connected to said loop section and compactly sandwiched between said cushioning pads and embracing an area which is more than one-half the area of said cushioning pads whereby gyratory motion produced by said motor is transmitted to said pads, a covering envelope enclosing said motion transmitting member and resilient cushioning pads and fitted to maintain said cushioning pads in motion transmitting contact with said motion transmitting member, and a pair of plates adjacent said stationary motor part rigidly connected to said motion transmitting member and extending laterally therefrom, said plates having clamp means gripped to bead formations extending along the adjacent transverse edges of said covering envelope.

3. A therapeutic cushion including in combination, a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture, a tubular shell housing said motor, means interposed between said stationary motor part and said shell serving as the sole support for said motor, a motion transmitting structure

including a loop section snugly embracing said shell and a relatively thin core section having relatively long and broad dimensions extending laterally from said loop section and flexible in a direction normal to its broad and long dimensions, a pair of resilient cushioning pads formed from a highly resilient rubber-like composition in face-to-face motion transmitting contact with the opposite broad and long faces of said core section, said core section extending centrally over the greater area of the length and breadth of said pads and compactly sandwiched therebetween whereby gyratory motion produced by said motor is transmitted through said loop section and core section and to said resilient cushioning pads, a covering casing enclosing said core section and cushioning pads and fitted to maintain said cushioning pads and core section in compactly assembled relation with said cushioning pads in motion transmitting contact with said core section, and a pair of clamp plates adjacent said stationary motor part and fixed to said motion transmitting structure and extending laterally therefrom, and means for securing said clamp plates to the adjacent transverse edges of said cover casing.

4. A therapeutic cushion including in combination, a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a predetermined rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture, a tubular shell housing said motor, means interposed between said stationary motor part and said shell serving as the sole support for said motor, a motion transmitting structure including a loop section embracing said shell and a relatively thin core section having relatively long and broad dimensions connected to and extending laterally from said loop section, said core section being formed by a plurality of longitudinally extending bands connected by one or more transverse bands and being manually flexible in directions normal of its broad and long dimensions, a pair of resilient cushioning pads in face-to-face motion transmitting contact with the opposite broad and long faces of said core section, said core section extending between the greater part of the length and breadth of said pads whereby gyratory motion produced by said motor is transmitted through said loop section and core section to said pads, a covering casing enclosing said core section and cushioning pads and fitted to maintain said cushioning pads and core section in compactly assembled relation with said cushioning pads in motion transmitting contact with said core section, and a pair of clamp plates presenting a pair of flange portions fixedly secured to said core section adjacent to its juncture with said loop section, said clamp plates presenting rolled formations clamped to the adjacent transverse edges of said covering casing.

5. A therapeutic cushion including in combination, a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a predetermined rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture whereby gyratory motion is transmitted to said stationary motor part, a cushion section including a pair of resilient cushioning pads formed of highly resilient rubber-like composition extending laterally from said stationary motor part in a direction normal to the longitudinal axis thereof, a motion transmitting member connected to said stationary motor part and compactly sandwiched between said cushioning pads and embracing an area which is more than one-half the area of said cushioning pads whereby gyratory motion produced by said motor is transmitted to said pads, a covering envelope enclosing said motion transmitting member and resilient cushioning pads and fitted to maintain said cushioning pads in motion transmitting contact with said motion transmitting member, a heating pad including a cover-encased heating element positioned adjacent the inside face of one of the side panels of said covering envelope and insulated by the adjacent resilient cushioning pad

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from said motion transmitting member, and a cushioning frame formed of highly resilient rubber-like composition in surrounding relation to said heating pad.

6. A therapeutic cushion including in combination a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a predetermined rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture whereby gyratory motion is transmitted to said stationary motor part, a cushion section including a pair of resilient cushioning pads formed of highly resilient rubber-like composition extending laterally from said stationary motor part in a direction normal to the longitudinal axis thereof, a motion transmitting member connected to said stationary motor part and compactly sandwiched between said cushioning pads and embracing an area which is more than one-half the area of said cushioning pads whereby gyratory motion produced by said motor is transmitted to said pads, a covering envelope enclosing said motion transmitting member and resilient cushioning pads and fitted to maintain said cushioning pads in motion transmitting contact with said motion transmitting member, and a heating pad including a cover-encased heating element positioned adjacent the inside face of one of the side panels of said covering envelope, said heating pad being insulated by the adjacent resilient cushioning pad from said motion transmitting member and surrounded by a cushioning frame formed of highly resilient rubber-like composition, and a current supply cord extending from said heating pad to a current control switch exterior to said cushion section.

7. A therapeutic cushion including in combination, a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a predetermined rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture, a shell structure enclosing said motor, means interposed between said stationary motor part and said shell structure serving as the sole support for said motor, a motion transmitting structure including a relatively thin core section having relatively long and broad dimensions connected to and extending laterally from said shell structure, said core section being formed by a plurality of longitudinally extending bands and connected by one or more transverse bands and being manually flexible in directions normal of its broad and long dimensions, a pair of resilient cushioning pads in face-to-face motion transmitting gripping engagement with the opposite broad and long faces of said core section, said core section extending between and centrally over the greater part of the length and breadth of said pads and compactly sandwiched therebetween whereby gyratory motion produced by said motor is transmitted through said shell structure and core section to said pads, a covering casing enclosing said core section and cushioning pads and fitted to maintain said cushioning pads in motion transmitting engagement with said core section, and a heating pad including a cover-encased heating element positioned adjacent the inside face of one of the side panels of said covering casing and insulated by the adjacent resilient cushioning pad from said motion transmitting core section.

8. A therapeutic cushion including in combination, a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a predetermined rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture, a shell structure enclosing said motor, means interposed between said stationary motor part and said shell serving as the sole support for said motor, a motion transmitting structure including a relatively thin core section having relatively long and broad dimensions connected to and extending laterally from said shell structure, said core section being formed by a plurality of longitudinally extending bands and connected at each end

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thereof by a transverse band and being manually flexible in directions normal to its broad and long dimensions, a pair of resilient cushioning pads in face-to-face motion transmitting engagement with the opposite broad and long faces of said core section, said core section extending between and centrally over the greater part of the length and breadth of said pads whereby gyratory motion produced by said motor is transmitted through said shell structure and core section to said pads, a covering casing enclosing said core section and cushioning pads and fitted to maintain said cushioning pads and core section in compactly assembled relation with said cushioning pads in motion transmitting engagement with said core section, a heating pad including a cover-encased heating element positioned adjacent the inside face of one of the side panels of said covering casing and insulated by the adjacent resilient cushioning pad from said motion transmitting member, a cushioning frame formed of highly resilient rubber-like composition in surrounding relation to said heating pad, and a current supply cord extending from said heating pad to a current control switch exterior to said cushion.

9. A therapeutic cushion including in combination, a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a predetermined rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture whereby gyratory motion is transmitted to said stationary motor part, a cushion section including a pair of resilient cushioning pads formed of highly resilient rubber-like composition extending laterally from said stationary motor part in a direction normal to the longitudinal axis thereof, a motion transmitting member connected to said stationary motor part and compactly sandwiched between said cushioning pads and embracing an area which is more than one-half the area of said cushioning pads whereby gyratory motion produced by said motor is transmitted to said pads, a covering envelope enclosing said motion transmitting member and resilient cushioning pads and fitted to maintain said cushioning pads in motion transmitting engagement with said motion transmitting member, a pair of clamp plates adjacent said stationary motor part and fixed to said motion transmitting member and extending laterally therefrom, means for securing said clamp plates to the adjacent transverse edges of said covering envelope, and a heating pad including a cover-encased heating element positioned adjacent the inside face of one of the side panels of said covering envelope and insulated by the adjacent resilient cushioning pad from said motion transmitting member.

10. A therapeutic cushion including in combination, a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a predetermined rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture whereby gyratory motion is transmitted to said stationary motor part, a cushion section including a pair of resilient cushioning pads formed of highly resilient rubber-like composition extending laterally from said stationary motor part in a direction normal to the longitudinal axis thereof, a motion transmitting member connected to said stationary motor part and compactly sandwiched between said cushioning pads and embracing an area which is more than one-half the area of said cushioning pads whereby gyratory motion produced by said motor is transmitted to said pads, a covering envelope enclosing said motion transmitting member and resilient cushioning pads and fitted to maintain said cushioning pads in motion transmitting contact engagement with said motion transmitting member, a pair of clamp plates fixedly secured to said motion transmitting member adjacent to said stationary motor part, said clamp plates presenting rolled formations clamped to the adjacent transverse edges of said covering casing, a heating pad including a cover-encased heating element positioned adjacent the inside face of one of the side panels of said covering envelope

and insulated by the adjacent resilient cushioning pad from said motion transmitting member, a cushioning frame formed of highly resilient rubber-like composition in surrounding relation to said heating pad, and a current supply cord extending from said heating pad to a current control switch exterior to said cushion.

11. A therapeutic cushion including in combination, a motor having a relatively stationary part and a rotary part journaled in said stationary part, said rotary part having a predetermined rotary unbalance well in excess of any accidental unbalance due to inaccuracy of manufacture, a shell structure enclosing said motor, means interposed between said stationary motor part and said shell structure serving as the sole support for said motor, a motion transmitting structure including a relatively thin core section having relatively long and board dimensions connected to and extending laterally from said shell structure, said core section being formed by a plurality of longitudinally extending bands and connected by one or more transverse bands and being manually flexible in directions normal of its broad and long dimensions, a pair of resilient cushioning pads in face-to-face motion transmitting contact with the opposite broad and long faces of said core section, said core section extending between and centrally over the greater part of the length and breadth of said pads and compactly sandwiched therebetween whereby gyratory motion produced by said motor is transmitted through said shell structure and core sec-

tion to said pads, a covering casing enclosing said core section and cushioning pads and fitted to maintain said cushioning pads in motion transmitting contact with said core section, a pair of clamp plates presenting a pair of flange portions fixedly secured to said core section adjacent to its juncture with said shell structure, said clamp plates presenting rolled formations clamped to the adjacent transverse edges of said covering casing, a heating pad including a cover-encased heating element positioned adjacent the inside face of one of the side panels of said covering casing and insulated by the adjacent resilient cushioning pad from said motion transmitting core section, a cushioning frame formed of highly resilient rubber-like composition in surrounding relation to said heating pad, and a current supply cord extending from said heating pad to a current control switch exterior to said cushion.

References Cited in the file of this patent

UNITED STATES PATENTS

2,162,021	Kidwell	June 13, 1939
2,425,655	Tompkins	Aug. 12, 1947
2,779,328	Crossi	Jan. 29, 1957
2,800,897	Ross	July 30, 1957

FOREIGN PATENTS

489,471	Canada	Jan. 6, 1953
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