

[54] ALL-PURPOSE MASSAGER

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[51] Int. Cl. A61h 1/00

[58] Field of Search 128/32-36,
128/24.2, 41

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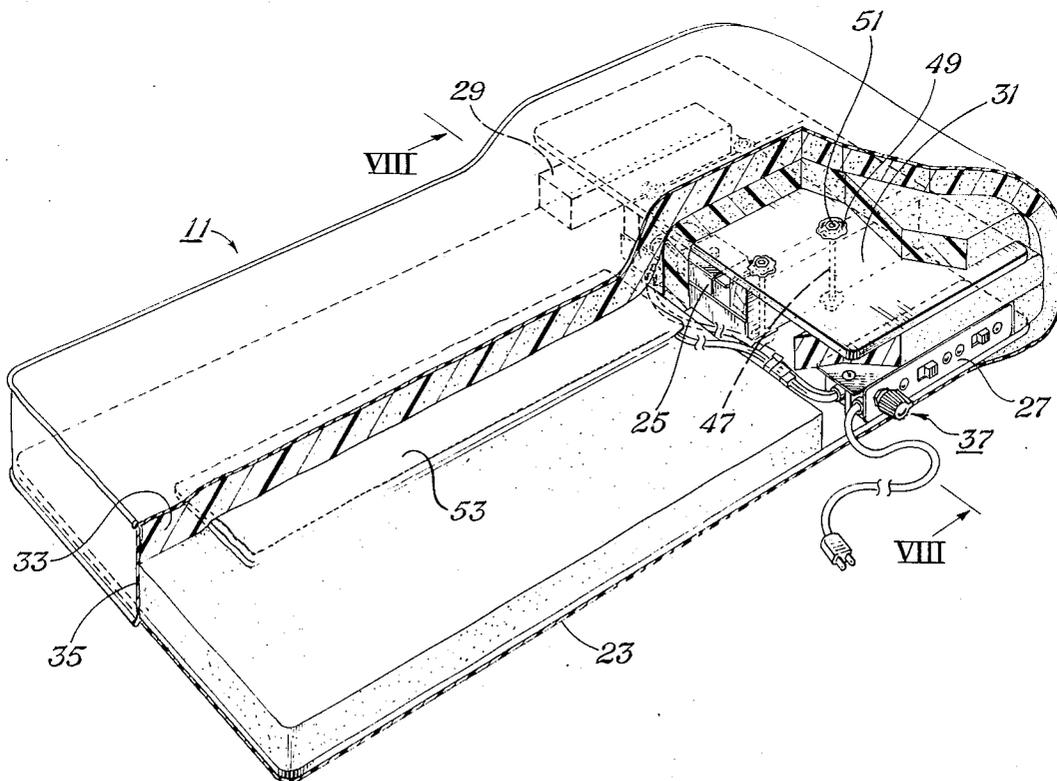
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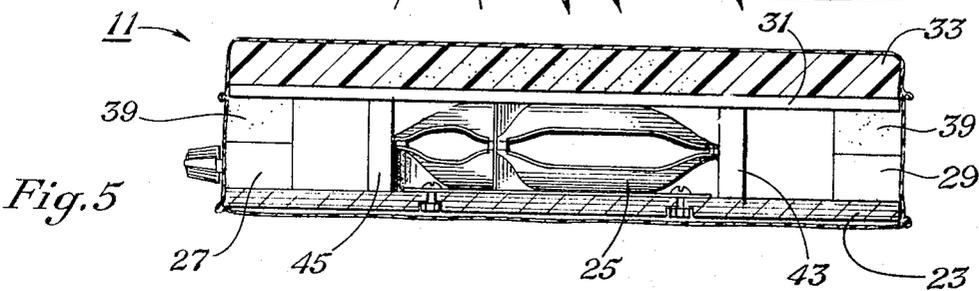
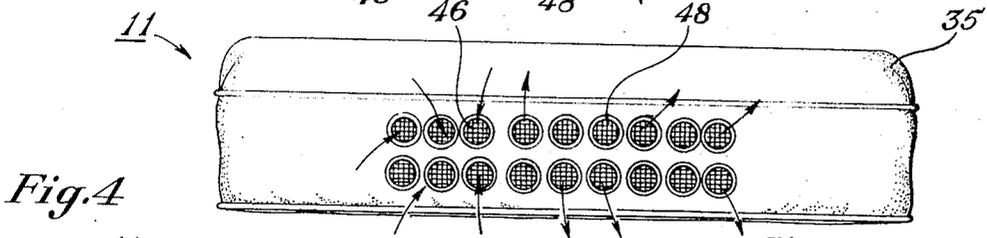
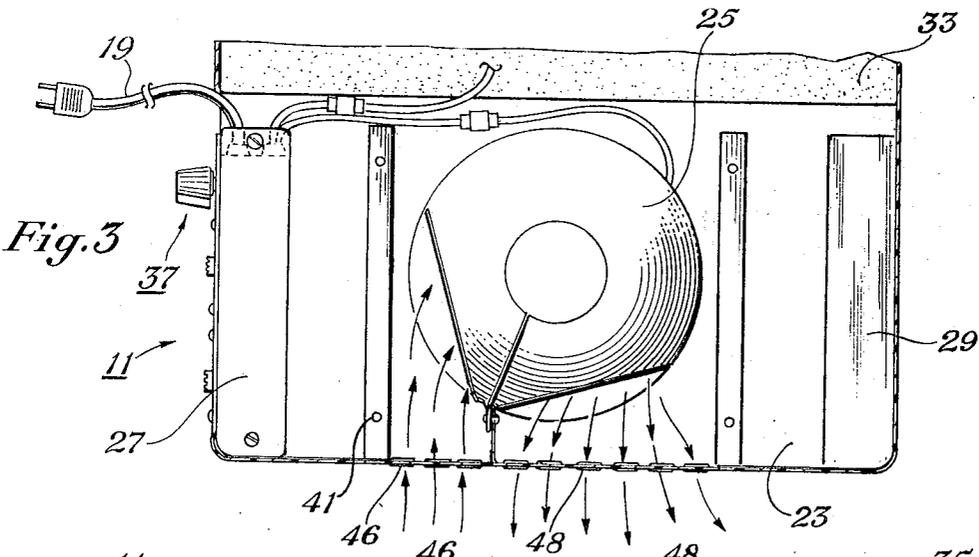
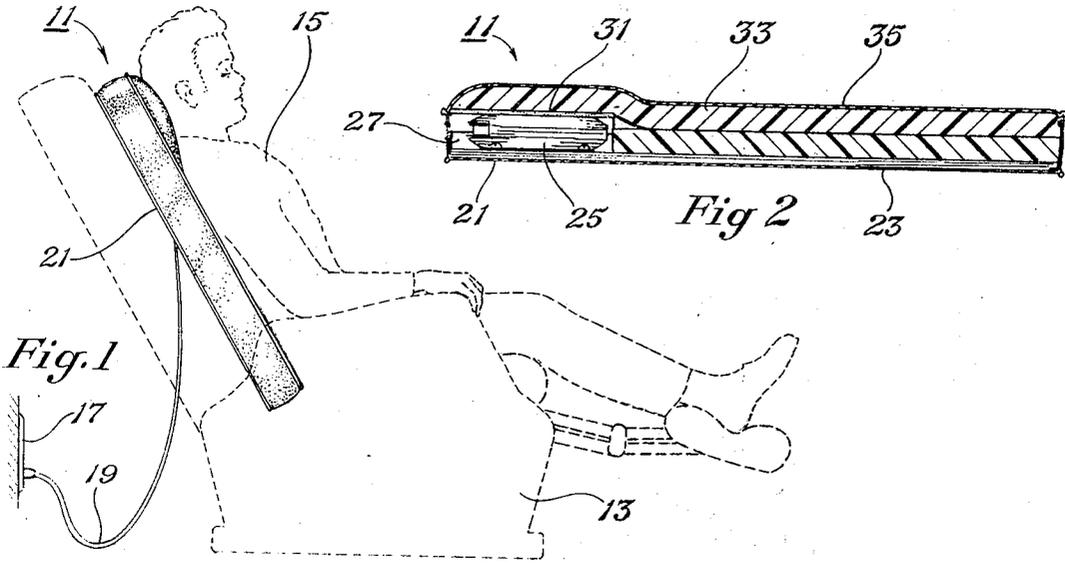
Primary Examiner—Lawrence W. Trapp
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[57] ABSTRACT

An all-purpose massager capable of supplying a plurality of levels of massage intensity characterized by a base that is capable of amplifying vibrations imparted to it; a motor-vibrator carried by the base for imparting vibrations; first and second counterweights attached to the base adjacent each side edge for further amplifying of the vibrations; a head member disposed above the motor-vibrator and the counterweights and connected with the base for supplying a different level of massage; a layer of padding material on the front side of the base and the head member for effecting a soothing soft side and a cover that encloses the padding and the back side such that the back side provides a penetrating hard side. Also disclosed are specific and preferred structural arrangements for effecting a small area massager, as well as a large area massager and specific and advantageous structural components.

14 Claims, 10 Drawing Figures





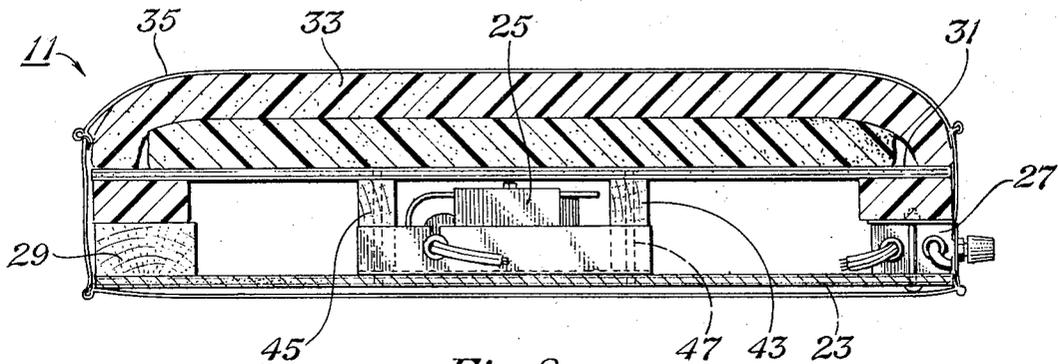
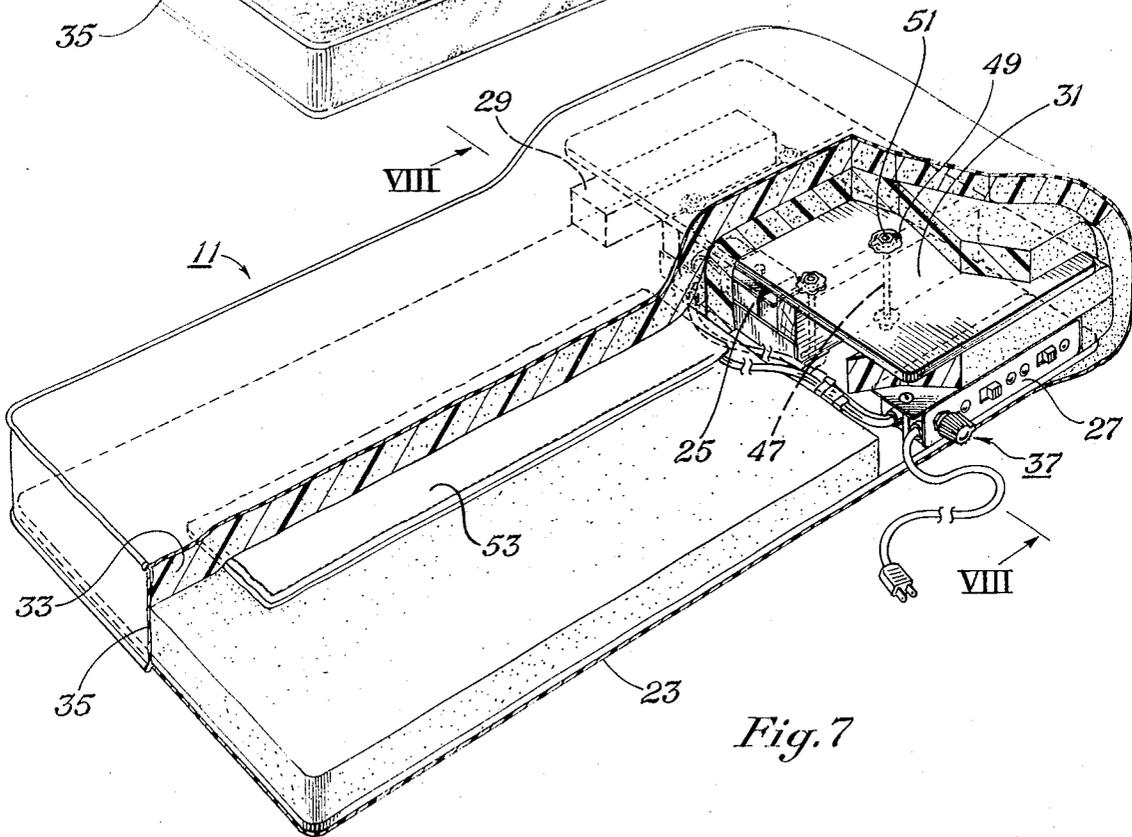
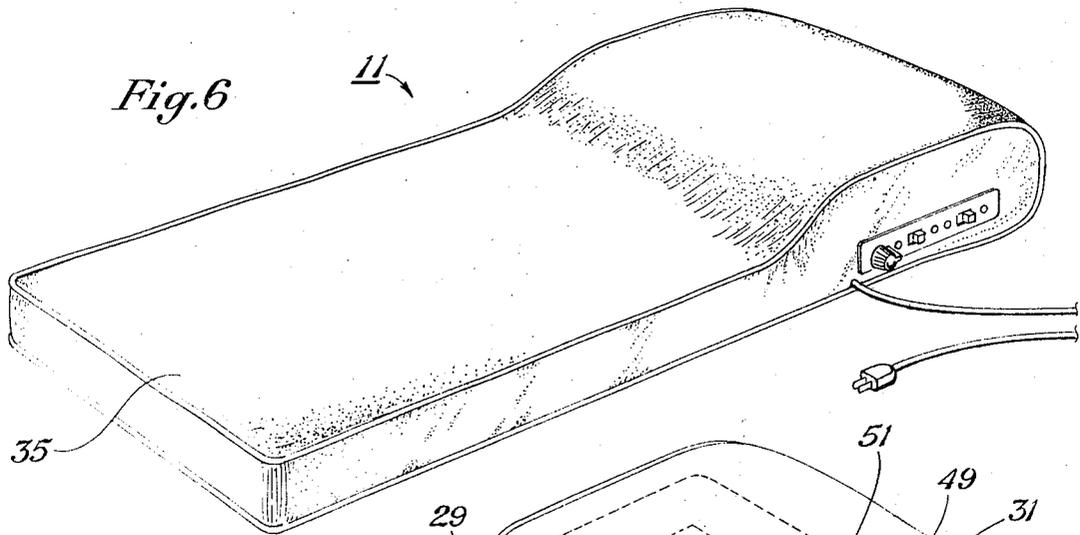


Fig. 6

Fig. 7

Fig. 8

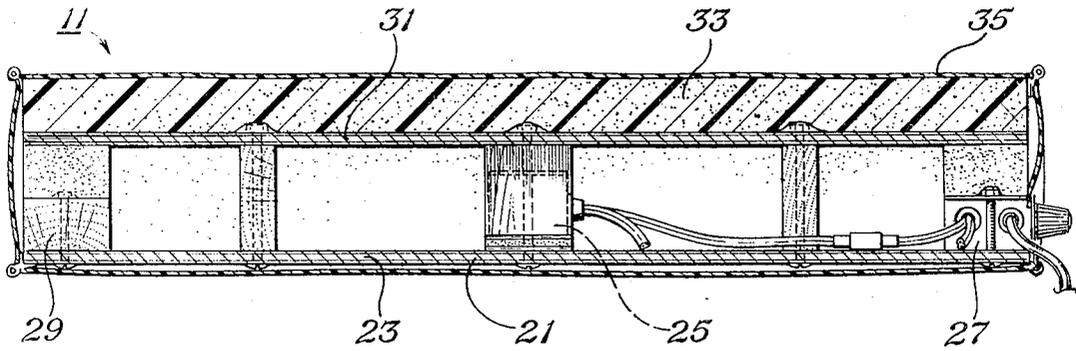


Fig. 9

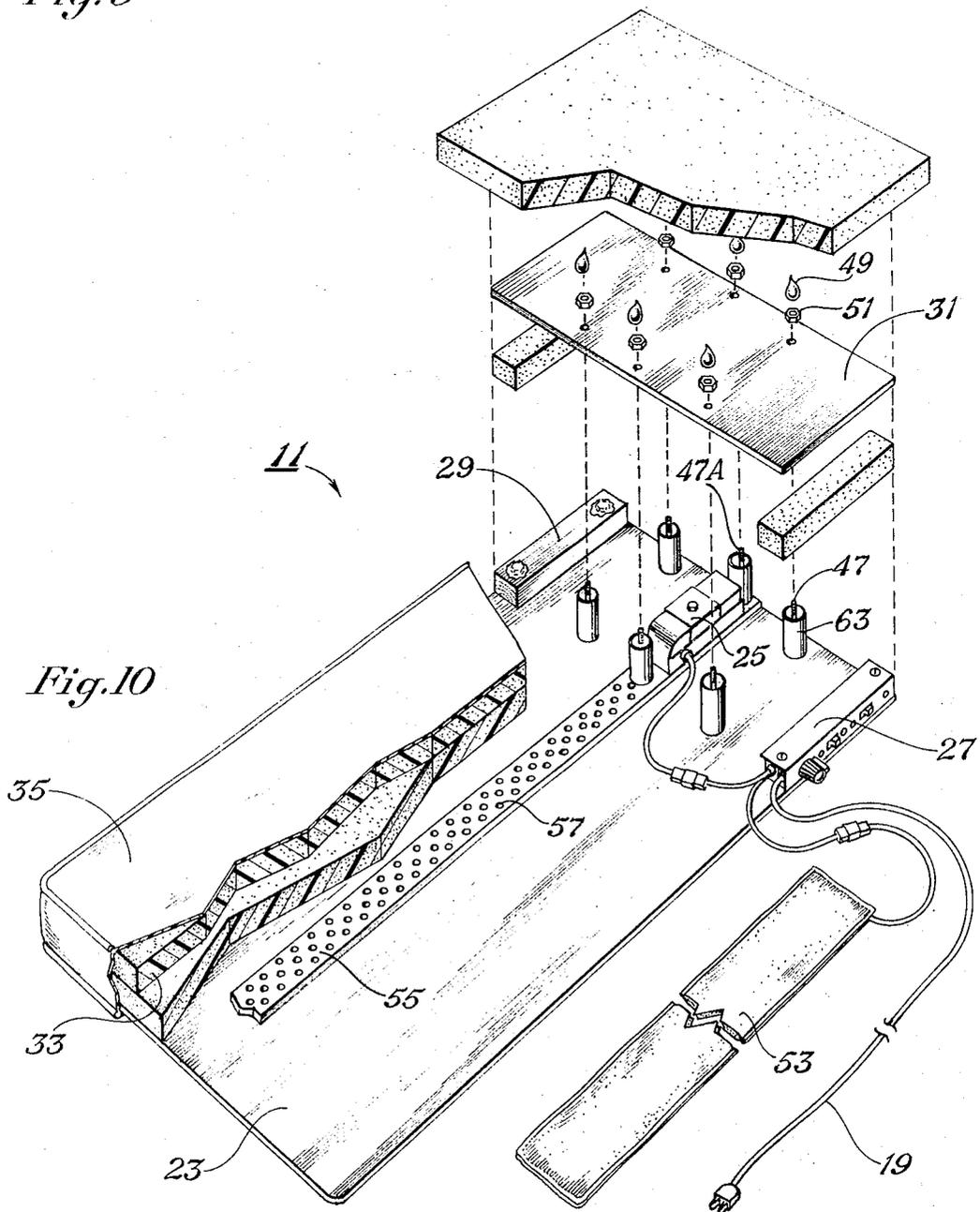


Fig. 10

ALL-PURPOSE MASSAGER

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a massager. More particularly, it relates to an all-purpose massager being capable of supplying different levels of massaging intensity. More specifically, this invention relates to an all-purpose massager available in a variety of sizes and useful for almost any area of the body, with or without heat; and suitable to provide, in conjunction with a doctor's supervision, beneficial therapeutic effects.

2. Description of the Prior Art

A wide variety of vibrators and massagers are known in the prior art. Also, different types of furniture, such as, recliners and beds have incorporated different types of vibrators and massagers into their structure for providing relaxation and psychological benefits. In general, however, these vibrators, massagers, and pieces of furniture have not been totally satisfactory in supplying the magnitude and frequency vibration that could produce discernible overall improvement in the chronic conditions of the users.

Specifically, it is desirable to have the following features in an all-purpose massager, these features not having been supplied by the prior art:

1. frequently, it is desirable to have a short vibrator that can still provide a plurality of massage levels;

2. more often, it is desirable to have a vibrator having adequate length to massage an entire torso or other fairly elongate region of the anatomy;

3. it is desirable to provide a structure in which resonance is readily effected to amplify the vibrations imparted thereto;

4. it is desirable to have specific structural features, such as locking means on bolts and nuts or the like, so that they are not loosened by the vibrations; and

5. it is desirable to have a soft front and a hard back for a plurality of different massaging effects, or levels, at all locations longitudinally of the massager.

Accordingly, it is an object of this invention to provide an all-purpose massager that has one or more of the features delineated hereinbefore and has different levels of intensity of massage that are variable to suit the needs of the user.

More specifically, it is an object of this invention to provide an all-purpose massager that has a plurality of the features delineated hereinbefore and not heretofore provided; and that is capable of providing different levels of massage and useful on almost any part of the body of the user for effecting discernible overall improvement in an ailing user; as well as allowing the relaxing and psychological comfort of a non-ailing user; without detrimental physiological side effects.

These and other objects will become apparent from the descriptive matter hereinafter, particularly when taken in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevational view of one embodiment of this invention being employed by a user in a reclining chair, the user and the reclining chair being shown in phantom.

FIG. 2 is a side cross sectional view of the embodiment of FIG. 1.

FIG. 3 is a top plan view of the head end of the embodiment of FIG. 2 with the head member removed.

FIG. 4 is a top end view of the embodiment of FIG. 1.

FIG. 5 is a cross sectional end view from the top of the embodiment of FIG. 4 with the cover removed.

FIG. 6 is an isometric view of another embodiment of this invention.

FIG. 7 is an isometric view, partly cut away, to show the interior of the embodiment of FIG. 6.

FIG. 8 is a top cross sectional view of the embodiment of FIG. 7.

FIG. 9 is a top cross sectional view of still another embodiment of this invention.

FIG. 10 is an isometric view, partly cut away and partly exploded, of the embodiment of FIG. 9.

DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to FIG. 1; the massager 11, constructed in accordance with this invention, is being employed in a recliner 13 for massaging the upper torso, neck and the like of an individual 15, the recliner 13 and the individual 15 being shown in phantom lines. As illustrated, the massager 11 is connected with a conventional source of power, such as AC outlet 17, by way of suitable conductors, such as plug in cord 19. As illustrated, the massager 11 is effective for vibrating the entire torso of the individual 15. The soothing soft side, which will be understood more nearly completely from the descriptive matter hereinafter, is being employed in FIG. 1. If a harder more intense vibration is desired, the massager may be reversed so that the back 21 is adjacent the individual 15. Moreover, the massager 11 may be inverted to obtain different types of vibration in different portions of the anatomy. Also, if desired, the massager 11 may be placed on the floor to massage feet and legs with the various levels of massage. It may be employed on therapy massage tables, in wheel-chairs, or in bed for a variety of purposes which will be summed up at the end of this specification, after the structural features and advantages have been delineated.

Referring to FIGS. 2-5, the massager 11 includes a base 23, a motor-vibrator 25, first and second counterweights 27 and 29, a head member 31, a layer of padding material 33 and a cover 35.

The base 23 is more flexible transversely than longitudinally for amplifying vibrations imparted thereto; for example, to its lateral center. Expressed otherwise, the amount of flex per unit length along the transverse, or lateral, axis is greater for a given amount of force imparted thereto than is the amount of flex along the longitudinal axis. As illustrated, the base 23 is made of 1/4 inch plywood with the external grains running longitudinally for greater transverse flexing. The base 23 may have any appropriate length. For example, it may be less than 1 foot in length for effecting local massaging with a couple of levels of massage intensity. Specifically, it may have a length of less than a foot and a width of greater than a foot and being capable of effecting soothing massage by the soothing soft side, or through the padding material 33, and for effecting a penetrating massage via the penetrating hard side, or back 21. On the other hand, the massager will ordinarily be adapted for larger areas of massage, as well as small area massage. In such a construction, it will have a length greater than about 2 feet and a width greater than 1 foot. With this type construction, as will be more

clearly apparent hereinafter, the massager is thereby adapted to supply for levels of massage intensity. The first level of soft massage is contiguous the head member on the soothing soft side. The second level is a different level of soft massage contiguous the base below the head member on the soothing soft side. The third level is a hard penetrating massage contiguous the hard side opposite the head member on the penetrating hard side 21. The fourth is a different level of hard penetrating massage contiguous the hard side of the base 23 below the head member 31. As illustrated, the base 23 is 27 inches in length and 15 inches in width for fitting into most chairs, wheelchairs, recliners, beds and therapy tables.

It is likely that with further research, longitudinally corrugated plastic or the like can be provided that will have the desired greater transverse flexing; but the plywood has thus far proved surprisingly superior in performance to any other commercially available material.

The motor-vibrator 25 is connected with the base 23 at the lateral center of the base 23 for imparting vibrations thereto. The motor-vibrator 25 has means for connecting with the power source, illustrated as plug in cord 19, FIGS. 1 and 3. The motor-vibrator 25 also has controls 37, FIG. 3, that are readily accessible to the user; for example, at a side panel as illustrated. Ordinarily, the controls will comprise at least an on-off switch and a rheostat for varying the amplitude or frequency or both. As illustrated, the motor-vibrator 25 comprised a model no. 207H Thermassage motor having long cycle, 3,600 pulse-per-minute vibrations instead of the usual motors having about twice that frequency. Later, however, it was found that with the structure delineated herein, other motor-vibrator combinations that were less expensive could be employed and, because of the apparent inherent resonant frequency, the same beneficial frequency and amplitude massage could be obtained. The motor is adapted to run on 120 volt, 60 cycle alternating current. It may draw any desired power and amperage. Ordinarily, a motor rated at about 10 watts, drawing 0.16 amps, has been found adequate. Both types of motor-vibrators are commercially available and need not be described in detail herein. Ordinarily, it is advantageous if the motor-vibrator is adjusted so as to be able to obtain the maximum amplitude of vibrations therefrom, but is variable in intensity for best results.

The first and second counterweights 27 and 29 are fixedly connected to the base 23 adjacent each side edge for further amplifying the vibrations imparted to the transversely flexible base. As illustrated, pads of resilient foam 39 are disposed intermediate the respective counterweights 27 and 29 and the head member 31 for assisting in the amplification of the vibrations imparted to the base 23. The counterweights 27 and 29 may have any appropriate mass that are approximately equal and that enhance the vibration of the base 23 and help it to oscillate at the desired frequency. As illustrated, the counterweight 27 comprises an elongate control box containing the controls for the motor-vibrator 25, as well as a heating pad if such is employed. The second counterweight 29 has the same mass as the control box to comply with the constraint given hereinbefore. The control box 27 and the other counterweight 29 are mounted with their longitudinal axes parallel with the longitudinal axis of said base. As

illustrated, the control box has a height of 1 1/16 inch, a length of 5 1/4 inches and a width of 2 1/4 inches. A wooden block having about the same dimensions as the control box 27 has been found to have about the same mass and serve adequately as the second counterweight 29.

The head member 31 is disposed above the motor-vibrator 25 and the counterweights 27 and 29. The head member 31 is also more flexible transversely than longitudinally for amplifying vibrations imparted to it, particularly at its lateral center; as by having it contact the top of the motor-vibrator 25 directly as illustrated. In fact, as illustrated, the motor-vibrator 25 serves as the intermediate connecting member between the head member 31 and the base 23 at the lateral center. The head member 31 is also connected with the base at a plurality of other points, such as bolt apertures 41, that are spaced respectively along respective longitudinally extending lines located on each side of and laterally intermediate the motor-vibrator 25 and each of the respective side edges of the base 23 and the head member 31. Specifically, blocks 43 and 45 are disposed on each side of the motor-vibrator 25 and have bolts (not shown) penetrating through the bolt apertures 41, FIG. 3, and connecting with the head member 31 disposed above the base member 23 in normal position. Respective nuts are preferably counter sunk and locked in place on the bolts so as to prevent loosening under vibration. The locking may comprise lock washers or other locking nuts. I have found it particularly preferable to employ a locking plastic cement that locks the nuts and bolts in place and to the head member 31 to prevent loosening even under the intense, high amplitude vibrations of this invention.

The layer of padding material 33 is employed on the front side of the base 23 and on the front side of the head member 31 for effecting a soothing soft side. As illustrated, a pair of layers of padding material 33 are employed, one overlying the head member 31 and the bottom one overlying the base 23 only. The padding material may comprise any suitable resilient material. As illustrated, a foamed material is employed. The foamed material may comprise foamed rubber or foamed plastic, such as the polyurethane foam, polystyrene foam, or the like. The resiliency may come from the material itself or may come from trapped pores of air. In the illustrated embodiments, the layers of padding material 33 need not be permeable since the motor-vibrator 25 can take air in through inlet ports 46 and breathe air out through discharge ports 48. As illustrated, inlet ports 46 comprise about one-third of the transverse distance of the motor-vibrator enclosure; whereas the discharge ports 48 comprise about two-thirds of the distance. This assures adequate ventilation. As will become apparent from later descriptive matter, adequate air circulation is effected if the foam material is permeable to air flow. The purpose of the padding material 33 is to attenuate the amplitude of the vibration imparted to the individual 15 from the vibrating base 23. As will be more clearly apparent from embodiments described hereinafter, the padding material 33 may be adapted to encompass a heating pad or the like.

The cover 35 may comprise any suitable material. For example, a fabric of the desired color, weave and texture can be employed to compliment the decor of the surroundings in which the massager 11 will be em-

ployed. Because of the flexibility of the massager 11, however, I have found it preferable to employ readily cleaned material for the cover 35. Suitable readily cleaned materials are the plastic covers, such as the simulated leathers like Naugahyde, polyvinyl plastic, and the like.

In operation, the vibrator is constructed as illustrated. The plug in cord 19 may be plugged into a suitable AC receptacle 17 and the desired vibration imparted to any part of the anatomy. For example, the soothing soft side may be placed next to sore muscles, for relieving nervous tension, for increasing circulation, for ridding the user of debilitating soreness, for minor arthritis, bursitis and neuritis. The penetrating hard side, or back 21, may be employed for stopping pain from arthritic spurs, the pain otherwise lasting for several days; for relief from the pain of rheumatism, bursitis and sciatica. As indicated, the massager 11 may be used in the upright or inverted position with either the soft side or the hard penetrating back side 21 next to the individual 15. The motor may be turned up to the most soothing and enjoyable control setting. It should not be used more than 30 minutes at a time, but may be safely and readily used in a given area for up to 15 minutes. It may be used on the upper or lower torso, in the neck area, around the feet or knees. If desired, additional objects may be employed for massaging a localized area. For example, a rolling pin or similar solid object at least 2 1/2 inches in diameter can be emplaced between a difficultly accessible part of the spine and back 21 to conduct the sonic vibration from the penetrating hard side, or back 21, into the spine for the beneficial effects, such as relief of injury arthritis. The massager should be used in conjunction with consultations with a doctor in order to ensure that the proper physiological effects are obtained.

Other embodiments of the massager 11 may be employed. For example, FIGS. 6-8 illustrate another embodiment. Therein, the massager 11 comprises the same elements, or sub-assemblies of base 23, motor-vibrator 25, first and second counterweights 27 and 29, head member 31, layer of padding material 33 and cover 35. Basically, the same construction and caveats are applicable in the embodiment of FIGS. 6-8 as described hereinbefore with respect to FIGS. 1-5. The motor-vibrator 25, however, is of different construction and is mounted longitudinally at the lateral center of the base 23 beneath the head member 31. The motor-vibrator 25 is an elongate structure that is mounted with its longitudinal axis parallel with the longitudinal axis of the base 23. As illustrated in FIG. 8, the blocks 43 and 45 are disposed intermediate the base 23 and the head member 31 with bolts 47 penetrating longitudinally therethrough. In FIG. 7, the plastic cement 49 serving as the locking means for preventing relative movement between the respective nuts 51 and bolts 47 is illustrated.

In the embodiments of FIGS. 6-8, the padding material 33 is permeable to air so there is adequate air flow for cooling the motor-vibrator 25 without providing respective ports 46 and 48.

The massager 11, FIGS. 6-8, has a heating pad 53 that is connected with its control switch in the control box 27 for providing the beneficial effects of heat in combination with the massage. If desired, the respective layers of padding material 33 may be cut away to

provide room for the heating pad 53 or may simply compensate for its presence by their resiliency.

In operation, the embodiment of FIGS. 6-8 is similar to that described hereinbefore with respect to FIGS. 1-5. The control 37 is adjusted to the desired comfort level. If desired, the warmth may be obtained by turning on the heating pad 53. As with the massager 11 of FIGS. 1-5, the length of time of use is adjusted to effect the desired results.

Still another embodiment is illustrated in FIGS. 9 and 10. In this embodiment, too, the massager 11 has the same elements and sub-assemblies of the base 23, the motor-vibrator 25, the first and second counterweights 27 and 29, the head member 31, the padding material 33 and the cover 35. As illustrated in the exploded view of FIG. 10, the massager 11 also has the heating pad 53. In the embodiment of FIGS. 9 and 10, the base 23 has the same construction as delineated hereinbefore, and the longitudinally running grains are illustrated. The motor-vibrator 25 is, however, mounted on an elongate strip 55 that is, in turn, mounted on the base 23. The strip 55 preferably comprises the same material and orientation as the base 23. The elongate strip 55 extends longitudinally along the lateral center of the base 23 for carrying the vibrations of the motor-vibrator 25 to the lower portion of the base 23 more efficiently. The elongate strip 55 may be any length, but is preferably at least one-half the length of the base 23. As illustrated, the heating pad 53 is emplaced over the elongate strip 55 and respective apertures 57 are provided in the elongate strip 55 for conducting the heat to the back 21 more effectively. In addition, two layers of padding material 33 are employed; the bottom layer being cut away to accommodate the elongate strip 55 and the heating pad 53.

In FIG. 10, the head member 31 is connected with the base 23 via individual fastening means at a plurality of points. Each fastening means include a compression member, such as the tubular block 63, for maintaining a desired separation of the head member 31 from the base 23. Each fastening means also includes a tension member, such as bolts 47 for preventing undesirable separation of the head member 31 from the base. It also includes, as indicated hereinbefore, a locking means in the form of a plastic cement 49 for holding the fastening means in a predetermined and preset position for maintaining the desired distance between the head member 31 and the base 23 even when subjected to vibrations over a long period of time. As illustrated, the head member 31 is connected with the base 23 at their respective lateral centers by respective bolts 47A disposed longitudinally along the longitudinal axis of the motor-vibrator 25. Thus, the connection by way of bolts 47A at the lateral center of the head member 31 and the base 23, effects concurrent imparting of concurrent vibrations to the head member 31 and the base 23 for more nearly concurrent vibration and less frequency interference. Otherwise, the embodiment of FIGS. 9 and 10 has the same caveats and advantages as described with the other embodiments hereinbefore. The additional amplification effected by the elongate strip 55 and the central connection between the head member 31 and the base 23 make possible the use of a less expensive motor-vibrator 25, yet effect the same beneficial results in the overall massager 11. In fact, I have been able to employ a motor weighing only 1 pound 15 ounces and meeting the Underwriters Labo-

ratory specifications, drawing only 10 watts of power for effecting the desired results.

In operation, the embodiment of FIGS. 9 and 10 operates similarly as described hereinbefore with respect to FIGS. 1-5 and 6-8, with the same beneficial results. 5

From the foregoing, it can be seen that this invention provides an invention that has a plurality of the features delineated as being desirable hereinbefore and not heretofore available and effects a massager having a plurality of levels of massage for the beneficial results thereby obtained. Specifically, this invention provides the objects delineated hereinbefore by having the motor-vibrator 25 mounted at the lateral center of a transversely flexible base 23 with counterweights, one of which may be the control box for the motor, at the side edges of the base. The massager 11 employs, in both the head member and the base, plywood with the external grain oriented longitudinally to amplify vibration imparted at its lateral center. The use of resilient foam padding material on one side of the base and the head member allows an attenuated massage for a soothing soft side for the beneficial effects achieved thereby; whereas the relatively unpadding side, or back 21, immediately adjacent the cover provides a penetrating massage. Moreover, the base and the head provide two different levels of massage intensity. Thus, the user, in combination with his doctor, may effect the desired level of heat and massage intensity for achieving the desired therapeutic and physiological results. 10 15 20 25 30

While I do not have the research facilities to delineate the optimum frequency and amplitudes effected by the massager 11, the results obtained with the structure delineated hereinbefore and claimed hereinafter have been surprisingly superior to any massagers that I have been able to obtain. In fact, in my own case and in numerous unsolicited testimonials, crippling pain attributed to arthritis and the like has been dramatically relieved by use of this invention so as to allow return to fully employed status, instead of being a semi-invalid. The facts of the examples have not been included in this already lengthy specification but can be substantiated. 35 40

Although this invention has been described with a certain degree of particularity, it is understood that the present disclosure has been made only by way of example and numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and scope of this invention. 45 50

What is claimed is:

1. A portable all-purpose massager capable of supplying a plurality of levels of massage intensity comprising:

- a. a base that is more flexible transversely than longitudinally for amplifying vibrations imparted to its lateral center;
- b. a motor-vibrator fixedly connected with said base at said lateral center for imparting vibrations thereto; said motor-vibrator having means for connecting with a power source and having controls that are accessible to a user;
- c. first and second counterweights fixedly attached to said base adjacent each side edge for further amplifying predetermined vibrations imparted to said transversely flexible base; 65

d. a head member disposed above said motor-vibrator and said counterweights; said head member also being more flexible transversely than longitudinally for amplifying said predetermined vibrations imparted to its lateral center; said head member being connected with said base at a plurality of points spaced respectively along respective longitudinally extending lines located one on each side of and laterally intermediate said motor-vibrator and each side edge of said base and said head member;

e. a layer of padding material on the front side of said base and said head member for effecting a soothing soft side; and

f. a cover enclosing said layer of padding material and said base; said cover being immediately adjacent said base without intervening padding on the back side of said base for effecting a penetrating hard side.

2. The massager of claim 1 wherein said head member is coextensive laterally of said base and extends over said counterweights; and pads of resilient foam are disposed intermediate said counterweights and said head member. 25

3. The massager of claim 1 wherein one counterweight comprises an elongate control box containing said controls and said other counterweight has weight equal to said control box; said control box and said other counterweight being mounted with their longitudinal axes parallel with the longitudinal axis of said base. 30

4. The massager of claim 3 wherein said base and said head member comprise $\frac{1}{4}$ inch thick plywood having its external grains running longitudinally for greater transverse flexing.

5. The massager of claim 1 wherein said head member is connected with said base at their respective lateral centers. 40

6. The massager of claim 1 wherein said massager is adapted for local massage and has a length of less than 1 foot and a width greater than 1 foot; said massager being capable of effecting soothing massage via said soothing soft side and effecting penetrating massage via said penetrating hard side. 45

7. The massager of claim 1 wherein said massager is adapted for large area massage as well as small area massage and has a length greater than 2 feet and a width greater than 1 foot; and said head member has a length less than 1 foot; said massager being thereby adapted to supply four levels of massage intensity as follows: 50

a. soft massage contiguous said head member on said soothing soft side;

b. a different soft massage contiguous said base below said head member on said soothing soft side;

c. hard penetrating massage contiguous the hard side of said head member on said penetrating hard side; and

d. a different hard penetrating massage contiguous the hard side of said base below said head member. 55

8. The massager of claim 1 wherein a heating pad is provided for beneficial effects of heat; said heating pad having controls that are adjacent said controls for said motor-vibrator and accessible to a user. 60

9. The massager of claim 8 wherein said heating pad is disposed intermediate a layer of said padding material and said base.

10. The massager of claim 1 wherein said motor is mounted on an elongate strip that is mounted on said base, said elongate strip extending longitudinally along the lateral center of said base for carrying the predetermined vibrations to the lower portion of said base more efficiently.

11. The massager of claim 10 wherein said heating pad is provided for beneficial effects of heat; said heating pad having controls that are adjacent said controls for said motor-vibrator and accessible to a user.

12. The massager of claim 11 wherein two layers of padding material are employed, one layer being cut away to allow room for said heating pad and said strip; wherein said heating pad is disposed on said elongate strip and beneath an upper layer of said padding material; and wherein said strip is perforated for conducting heat to the exterior of the back side of said base more effectively.

13. The massager of claim 10 wherein said head

member is connected with said base via individual fastening means that include:

- a. a compression member for maintaining a desired separation of said head member from said base via its compressive strength;
- b. a tension member for preventing undesirable separation of said head member from said base; and
- c. locking means for holding said fastening means in a predetermined and preset position for maintaining the desired distance between said head member and said base even when subjected to vibration over a long period of time.

14. The massager of claim 13 wherein said compression member comprises a tubular block having an aperture therethrough; said tension members comprise respective nuts and bolts traversing through the aperture in said tubular block; and said locking means comprises plastic cement for holding said preset relationship between said respective nuts and bolts to prevent loosening under said vibrations.

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