Feb. 28, 1950 P. BERTHOLIN 2,498,977

VIBRATING APPARATUS FOR TREATING HUMAN BODIES

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Fig. 1

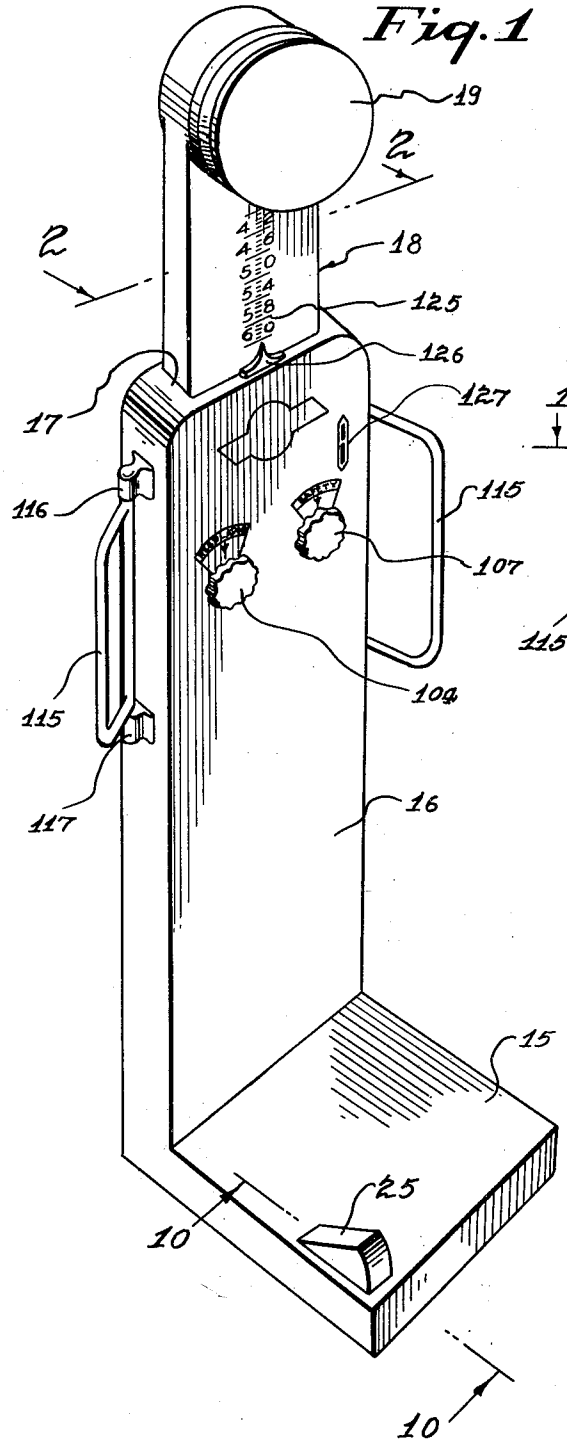


Fig. 9

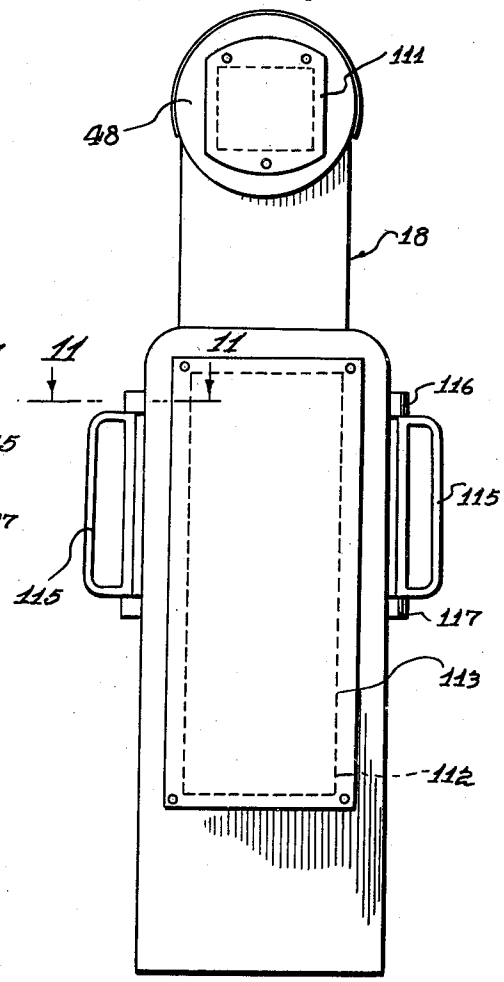
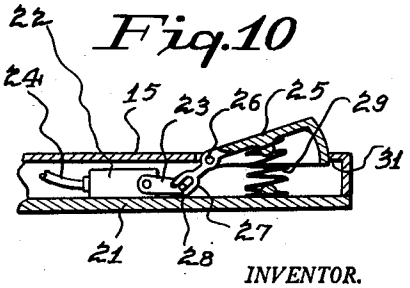


Fig. 10



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Fig. 2

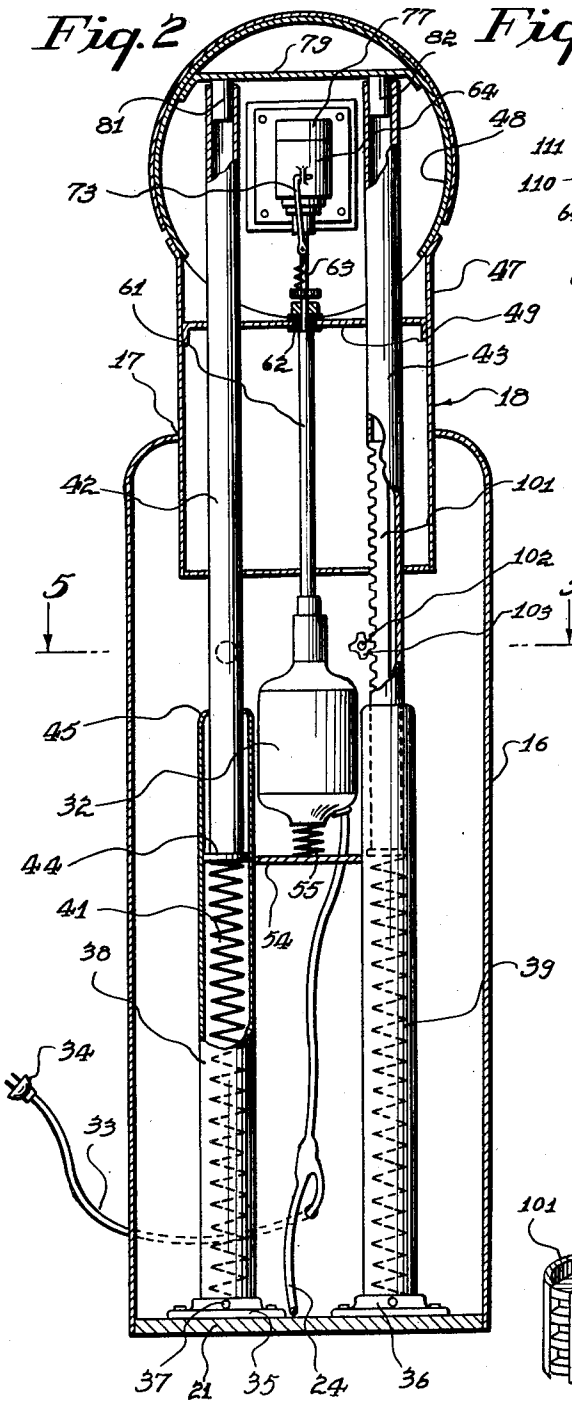


Fig. 4

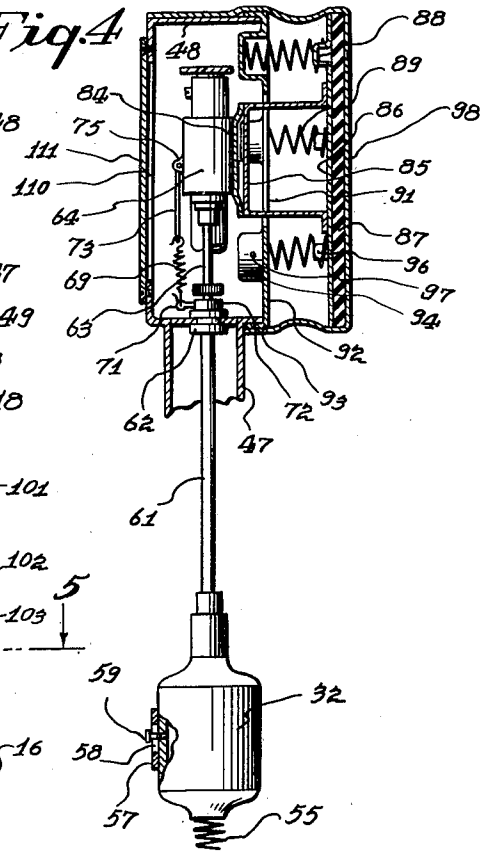
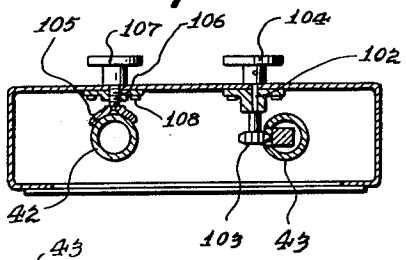


Fig. 5



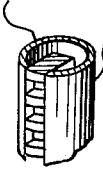


Fig. 6

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Fig. 3

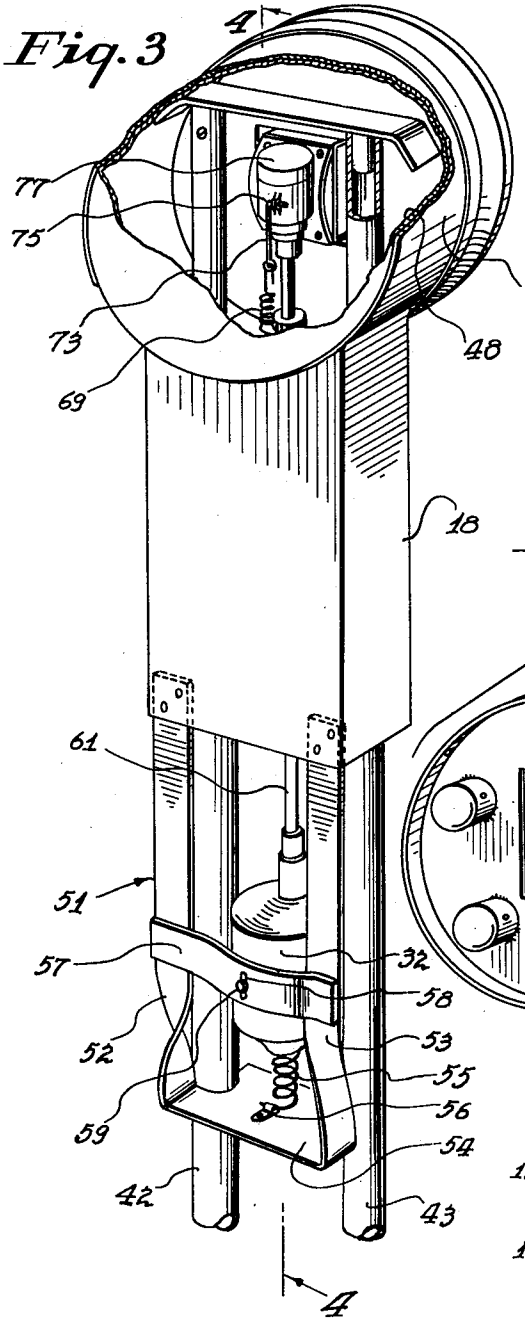


Fig. 7

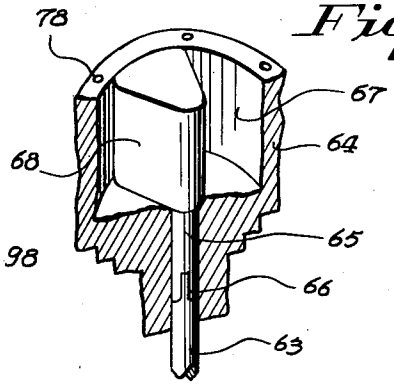


Fig. 8

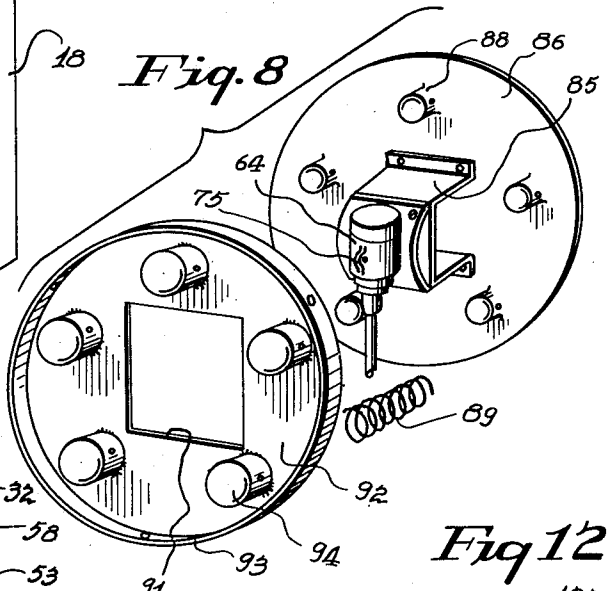


Fig. 11

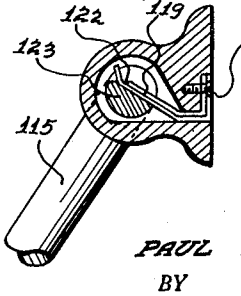
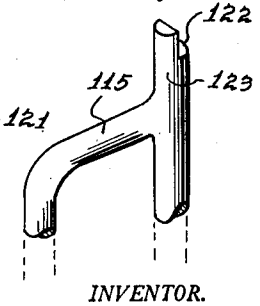


Fig 12



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UNITED STATES PATENT OFFICE

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VIBRATING APPARATUS FOR TREATING HUMAN BODIES

Paul Bertholin, New York, N. Y.

Application August 21, 1948, Serial No. 45,451

8 Claims. (Cl. 128—36)

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This invention relates to vibrating apparatus for treating the human body.

It is an object of the present invention to make available a vibrating apparatus for treating the human body which can be placed at busy locations within cities or in doctors' offices to make available vibrating action for the treatment of the body by a mere turn of a switch or by placing of a coin into a slot on the apparatus.

It is another object of the present invention to provide a vibrating apparatus for the treatment of the human body which has a vertically adjustable vibrating element which can be adjusted by a simple hand knob on the apparatus to different elevations suitable to the different height of persons using the apparatus and wherein there is provided on the apparatus hand holds which the person can grasp to bring his body into tight engagement with the vibrating element and wherein these hand holds will be automatically returned and retained in positions where they may be easily grasped by the next person to use the apparatus.

It is another object of the present invention to provide a vibrating apparatus for treating the human body wherein the operating parts are contained in an adjustable unit whereby a rigid driving connection can be maintained between the driving motor and the vibrating head and wherein the body engaging cushioned and resilient element is made fast to the vibrating head by a simple bracket fixed to the head and to the cushioned element.

It is another object of the present invention to provide a simple control means for the electric driving motor accessible to a foot while the person being treated on the apparatus is standing upon a platform and whereby the speed of the vibrating motor can be controlled at the will of the person using the apparatus.

Other objects of the present invention are to provide a vibrating apparatus for treating the human body of a type adapted to be disposed in busy places or in doctors' offices and of a pedestal variety, which is of simple construction, is inexpensive to manufacture, is easy to assemble, has a minimum number of parts, is sturdy and rugged, is easy to adjust, of pleasing appearance and is efficient in operation.

For other objects and for a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a perspective view of the vibrating apparatus embodying the features of the present invention.

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Fig. 2 is a vertical sectional view, taken through the apparatus and on line 2—2 of Fig. 1.

Fig. 3 is a perspective view of the vibrating head assembly removed from the base and with portions broken away to show the interior construction thereof.

Fig. 4 is a fragmentary and sectional view taken through the vibrating head assembly and on line 4—4 of Fig. 3.

Fig. 5 is a horizontal sectional view taken on line 5—5 of Fig. 2.

Fig. 6 is a fragmentary perspective view of the lifting rack disposed in the head assembly sleeve.

Fig. 7 is a fragmentary and perspective view of the driving weight.

Fig. 8 is an exploded view of the upper end of the vibrating head, the parts being shown in perspective.

Fig. 9 is a rear elevational view of the apparatus.

Fig. 10 is a vertical sectional view taken through the foot control mechanism lying in the base of the apparatus, the view being taken on line 10—10 of Fig. 1.

Fig. 11 is a horizontal sectional view taken through the connection of the hand grips with the upright pedestal portion and on line 11—11 of Fig. 9.

Fig. 12 is a perspective view of the upper end of the handle grip.

Referring now to the figures, 15 represents a platform on which the user of the apparatus may stand to secure the benefit from the same. Extending upwardly from the rear of the platform is a pedestal or upright portion 16 having an opening 17 in its upper end through which is adjustable a vibrating head assembly 18 having a body engaging face 19 adapted to engage with the back of the user or with the chest of the user. The base 15 has sufficient weight to support the pedestal 16 and the entire apparatus can be backed up against a wall so that little space will be consumed by the apparatus. The base 15 is hollow, as shown in Fig. 10, and has a bottom closure 21. On the bottom closure is a control element 22 having an operating arm 23 and a lead wire 24. The arm 23 is adapted to be operated by a foot lever 25 pivoted as at 26, Fig. 10, to the base 15 and having a bifurcated portion 27 extending over a pin 28 of the arm 23. A spring 29 extending between the foot lever 25 and the bottom 21 normally urges the foot lever to a raised position and a lip portion 31 engages with

the base to prevent the outward movement of the lever 25 therefrom.

The control element 22 is in the form of a rheostat for regulating the speed of electric motor 32, Fig. 2, to which the lead wires 24 is connected. Connected to the lead wires 24 is a cable extension 33 having a plug 34, Fig. 2, by which the apparatus may be connected to a wall receptacle. The pedestal portion 16 is formed of sheet material and extends upwardly from the bottom plate 21.

Resting upon the bottom plate 21 and secured thereto are laterally spaced flanged retaining rings 35 and 36. Extending upwardly and secured to these rings by set screws 37, are respectively spring retaining tubes 38 and 39 having respectively supporting springs 41 therein for supporting laterally spaced vertically extending hollow members 42 and 43 slidably connected to the tubes 38 and 39. These members 42 and 43 form a part of the vibrating head assembly 18. The lower ends of these members 42 are flanged as indicated at 44 to prevent the slippage of the springs 41 therepast and also to prevent the outward displacement of the members 42 from the upper ends of the tubes 38 and 39 by engagement with the respective inwardly bent ends of the tubes as indicated at 45.

The vibrating head assembly further includes a sheet metal casing 47 having a cylindrical top formation 48. A brace 49 extends transversely within the casing 47 and is secured thereto. The members 42 and 43 extend upwardly through the brace and are held therein against lateral displacement. Connected to the lower end of the casing 18 and depending therefrom is a U-shaped rigging member 51 having twisted legs 52 and 53 and a bottom portion 54. The bottom portion 54 has a spring 55 connected to it by a clamp 56 for supporting the electric motor 32. Extending between the legs 52 and 53 is a transversely extending brace 57 having a vertically extending slot 58 containing a fastening screw 59 which is extended into the motor 32 whereby to support the motor and to limit its vertical displacement.

Extending upwardly from the motor 32 is a rotating shaft 61. This shaft extends through a resilient grommet 62 in the brace 49. The upper end of the shaft 61 has a reduced diameter portion 63 which enters the revolving weight casing 64 to have clutching engagement with a shaft 65 in the casing 64, Fig. 7. The engagement of the operating shaft with the shaft 65 is indicated at 66. The shaft 65 accordingly will be driven at the speed of the operating shaft 61. The casing 64 has a well 67 in which an eccentric weight 68 is rotated. In order to prevent the vertical displacement of the shaft 61 from the shaft 65, a spring 69 is connected between a screw 71 of a set collar 72 and the weight casing 64, a hook 73 is secured to the upper end of the spring 69 and may be detachably connected to a lug 75 projecting from the casing 64. Upon the casing 64 there may be fitted a cover 77 which is secured by screws entering holes 78, Fig. 7, on the top of the casing. This cover will prevent the vertical displacement of the weight 68 within the well 67.

Within the cylindrical formation 48 is a top bracket 79 having depending projections 81 and 82 extending into the upper ends of the members 42 and 43, Fig. 2, whereby to support these members at their upper end against lateral displacement. Through this bracket 79 the casing 48 will also be supported upon the members and held against fore and aft displacement relative to the members.

Rigidly secured to the weight casing 64 is a vertically extending bracket 84 which is welded to the inner end of a U-shaped member 85. The vibrations set up by the weight 68 are imparted to the casing 64 and to the U-shaped member 85. Secured to the forward ends of the U-shaped member is a plate 86 having a rubber face 87 thereon. This rubber face 87 is preferably vulcanized to the plate 86. The plate has inwardly extending formations 88 centrifugally spaced thereabout to receive ends of cushioning springs 89. The member 85 extends through a central opening 91 in a plate 92 having a peripheral flange 93 tight fitted with the cylindrical formation 48 of the assembly casing 47. This plate 92 also has depressions 94 for respectively receiving the inner ends of the springs 89. Securing pins 96 and 97 respectively secure the ends of the springs to the projections 88 and the depressions 94 of the plate 92. A flexible leather or plastic covering 98 extends over the face of the rubber 87 to provide the body engaging face 19 of the vibrating head and extends rearwardly to enclose the space between the plates 86 and 92 and the springs 89 and rearwardly over the exterior surface of the cylindrical formation 48. When the weight 68 is rotated, the vibration will finally be imparted to the head surface 19 and this vibration will be in turn imparted to the body engaging with the surface, whereby the body will be invigorated, freshened and relaxed. The vibrations are in both horizontal and vertical planes. In order that the engaging vibrating surface 19 can be adjusted to different heights for different size persons, a rack 101 is secured within an opening in the vertically extending head assembly member 43, Fig. 2. Journalled in the upright portion 16 and extending through the same is a shaft 102 having a pinion gear 103 thereon engaging with the rack. A regulator knob 104 is secured to the shaft 102 and as the shaft is turned by the knob, the vibrating head assembly will be elevated or lowered. The assembly will be held in its vertical position by the springs 41 in the tubes 38 and 39 and a clamp lock 105 engaging the member 42, Fig. 5. The clamp 105 extends from a threaded shaft 106 having a turn knob 107 thereon. This shaft 106 has threaded engagement with a boss plate 108 fixed to the wall of the upright portion 16. The upward movement of the vibrating head assembly is facilitated by the springs 41.

The rear of the cylindrical formation 48 has an opening 110 which is closed by a cover 111. By removing the cover, access may be had to the vibrating weight device. The rear of the upright portion 16 has an opening 112 which is closed by a cover 113 extended thereover. By removing this cover access can be had to the interior of the upright portion and particularly to the motor 32 therewithin.

In order to make good body engagement with the engaging surface 19, there are provided handle grips 115 connected respectively between brackets 116 and 117 mounted on the sides of the portion 16. These handle grips are urged outwardly from the portion 16 by the action of leaf springs 119 fixed within the brackets by screws 121 and acting upon a square or diametrically extending face 122 on the handle grip 115 and upon an upwardly extending portion 123 thereof.

On the casing 47 are height indications 125 whereby the user of the apparatus can determine

the proper location for the vibrating surface 19 for his height. The regulator knob 104 is turned until indicator 126 is adjacent the proper height of the individual using the apparatus. It will be understood that if desired, a coin operating switch may be disposed within the upright portion 16 and within the cable 24 whereby to close the electric circuit extending through the motor and the control element 22. This control switch can be disposed in rear of a slot plate 127 on the upright portion 16.

As the user grasps the handles, he brings the surface 19 to bear against his body and with the foot he can step upon the foot lever 25 and bring it to the desired position depending upon the speed and amount of vibration which he desires. As the foot lever 25 moves downwardly, the speed of the motor is increased and accordingly the vibration effect will be increased.

It will be apparent that this apparatus can be located at locations where there are a large number of people and can be used in a simple and effective manner by each person desiring to use the same. The apparatus can also be placed in a home and used there at intervals or the apparatus can be disposed in a doctor's office for treatment of patients.

It should be further apparent that there has been provided a vibrating apparatus which is easy to operate, simple to adjust and construct and efficient in operation.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

I claim:

1. A vibrating apparatus for the treatment of human bodies comprising a base serving as a platform, an upright portion extending upwardly from the base, a vibrating head assembly slidably and adjustably connected to the upright portion for adjustment to different elevations depending upon the height of the person using the apparatus, means accessible to the user for vertically adjusting the head assembly, said head assembly having a body engaging element extending forwardly for the engagement with the body of the person standing on the platform and an operating mechanism connected to the body engaging element to transmit vibrations thereto, indicia means on the vibrating head assembly to give indication to the user of the apparatus of the height to which the body engaging element has been extended and means extending between the upright portion and the vibrating head assembly for manually locking the head assembly in its adjusted position.

2. A vibrating apparatus for the treatment of human bodies which comprises a base serving as a platform, an upright portion extending upwardly from the base, a vibrating head assembly slidably and adjustably connected to the upright portion for adjustment to different elevations depending upon the height of the person using the apparatus, means accessible to the user for vertically adjusting the vibrating head assembly, said vibrating head assembly including a body engaging element extending forwardly for engagement with the body of the person standing on the platform, and operating mechanism connected to the body engaging element in order to transmit vibrations thereto, handle gripping means extending

outwardly from said upright portion and adapted to be grasped by the person standing on the platform, and spring means for urging said handle gripping means outwardly from said upright portion.

3. A vibrating apparatus for the treatment of human bodies which comprises, a base serving as a platform, an upright portion extending upwardly from said base, a vibrating head assembly slidably and adjustably connected to said upright portion for adjustment to different elevations depending upon the height of the person using the apparatus, and means accessible to the user for vertically adjusting the vibrating head element, said vibrating head assembly including a body engaging element extending forwardly for engagement with the body of the person standing on the platform, a casing having a closed top formation with a front opening, a plate having a central opening therein fitted onto said front opening, a plurality of circumferentially spaced springs secured to the front of said plate, an operating mechanism connected to the body engaging element to transmit vibrations thereto, said operating mechanism having a portion thereof extending through said opening in said plate, said body engaging element being connected to the forward ends of said circumferentially spaced springs, and a cover of flexible material extending over said body engaging element, said springs, and said plate, and over the top formation of said casing.

4. A vibrating apparatus for the treatment of human bodies, which comprises, a base serving as a platform, an upright portion extending upwardly from said base, a vibrating head assembly slidably and adjustably connected to said upright portion for adjustment to different elevations depending upon the height of the person using the apparatus, means accessible to the user for vertically adjusting said vibrating head assembly, a body engaging element extending forwardly for engagement with the body of the person standing on said platform, and an operating mechanism for transmitting vibrations to said body engaging element, said operating mechanism comprising an electric motor mounted in said vibrating heat assembly and adjustable therewith, a shaft extending upwardly from said electric motor, a weight casing connected to said body engaging element, a shaft therein connected with said shaft which extends upwardly from said electric motor, and a weight rotatable in said weight casing and operably connected to said last mentioned shaft.

5. A vibrating apparatus for the treatment of human bodies, which comprises, a base serving as a platform, an upright portion extending upwardly from said base, a vibrating head assembly slidably and adjustably connected to said upright portion for adjustment to different elevations, depending upon the height of the person using the apparatus, means accessible to the user for vertically adjusting said vibrating head assembly, said vibrating head assembly including a body engaging element extending forwardly for engagement with the body of the person standing on the platform, and an operating mechanism connected to said body engaging element and adapted to transmit vibrations thereto, said operating mechanism including an electric motor mounted within said vibrating head assembly, a speed control element connected to said electric motor, a foot lever for operating

said speed control element, said foot lever being mounted in said platform and accessible to the foot of the user while said user is standing on said platform, and wiring means for connecting said motor and said speed control element with a source of electric power.

6. A vibrating apparatus for the treatment of human bodies, which comprises, a base serving as a platform, an upright portion extending upwardly from said base, a vibrating head assembly slidably and adjustably connected to said upright portion for adjustment to different elevations depending upon the height of the person using the apparatus, means accessible to the user for vertically adjusting said vibrating head assembly, and an operating mechanism for transmitting vibrations to said vibrating head assembly, said vibrating head assembly including a body engaging element which extends forwardly for engagement with the body of the person standing on the platform and using the apparatus, and said means for vertically adjusting said vibrating head assembly including laterally spaced vertically extending tubes mounted in said upright portion and extending upwardly from said base, supporting springs in said vertically extending tubes, a plurality of vertically extending members depending from said vibrating head assembly having their ends slidably fitted into said tubes and supported by said springs, a rack associated with one of said vertically extending members depending from said vibrating head assembly, a pinion engaging said rack, a shaft extending from said pinion through said upright portion to the front side thereof, and a control knob on said shaft for rotating said shaft and adjusting said vibrating head assembly.

7. A vibrating apparatus for treatment of human bodies, which comprises, a base serving as a platform, an upright portion extending upwardly from said base, a vibrating head assembly slidably and adjustably connected to said upright portion for adjustment to different elevations depending upon the height of the person using the apparatus, means accessible to the user for vertically adjusting said vibrating head assembly, and an operating mechanism connected to said vibrating head assembly for transmitting vibrations thereto, said vibrating head assembly including a body engaging element which extends forwardly of said upright portion for engagement with the body of a person standing on said

platform, said means for vertically adjusting said vibrating head assembly including laterally spaced vertically extending tubes mounted in said upright portion and extending upwardly from said base, supporting springs in said vertically extending tubes, a plurality of vertically extending members depending from said vibrating head assembly and having their ends slidably fitted into said tubes and supported upon said springs, a rack associated with one of said vertically extending members, a pinion engaging said rack, a shaft extending from said pinion through said upright portion to the front side thereof, a control knob on said shaft by which rotation of said shaft and adjustment of said vibrating head assembly may be effected, a clamp adapted to engage the other vertically extending member, a shaft for operating said clamp extending through said upright portion, and a hand knob on said shaft for locking said vibrating head assembly in an adjusted position after said adjustment has been effected through said pinion and rack.

8. In a vibrating apparatus for treatment of human bodies, a vibrating head assembly which comprises a body engaging element extending forwardly for engagement with the body of the person using said vibrating apparatus, a plurality of laterally spaced vertically extending tubes, supporting springs in said respective vertically extending tubes, a plurality of vertically extending members depending from said vibrating head assembly, said vertically extending members having their ends slidably fitted into said tubes and supported by said springs, an electric motor mounted in said vibrating head assembly, a shaft extending upwardly from said electric motor, a weight casing connected to said body engaging element and shaft, and a weight rotatable in said weight casing and operably connected to said shaft.

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