Nov. 6, 1962 L. L. LOIACANO 3,062,205

MASSAGE MACHINE

Filed June 9, 1959 5 Sheets-Sheet 1

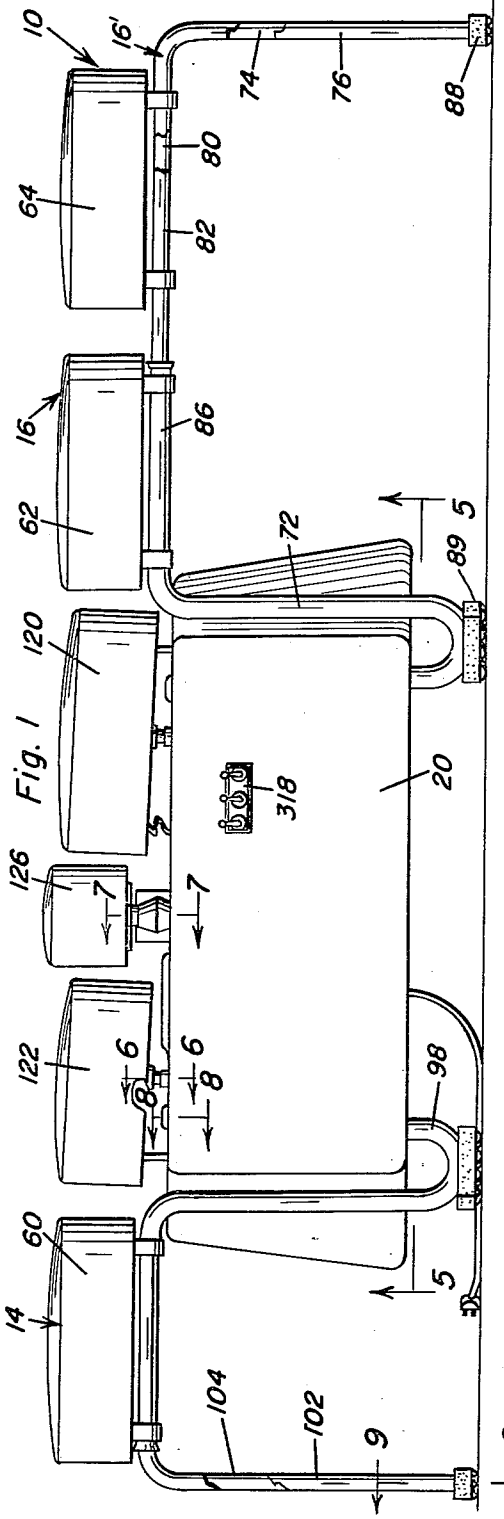


Fig. 1

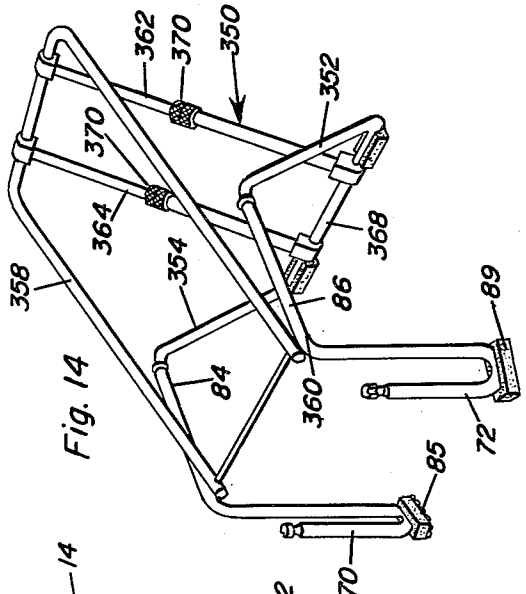


Fig. 14

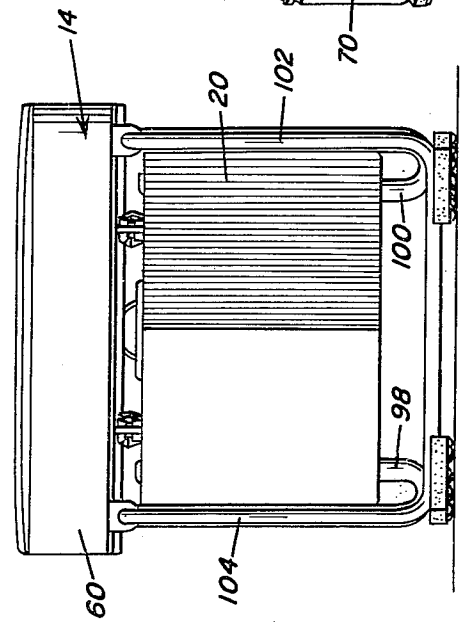


Fig. 2

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MASSAGE MACHINE

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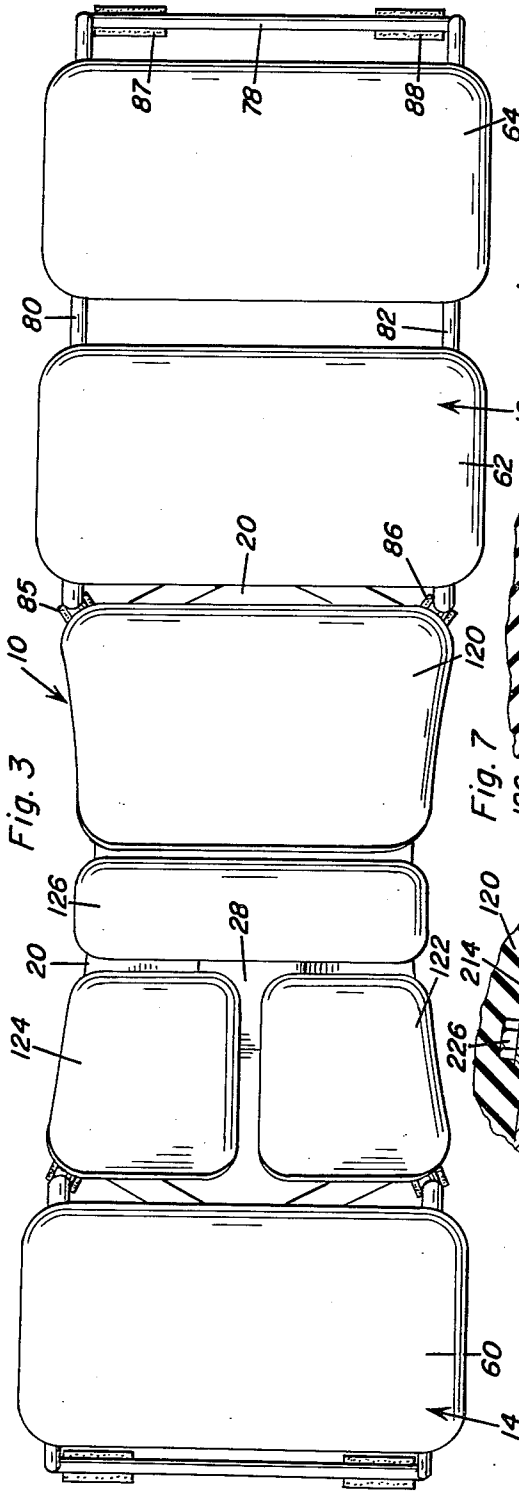


Fig. 3

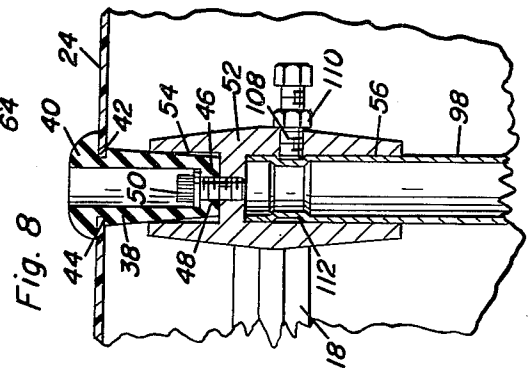


Fig. 8

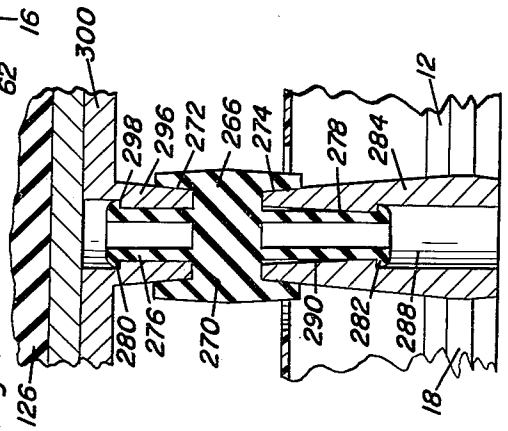


Fig. 7

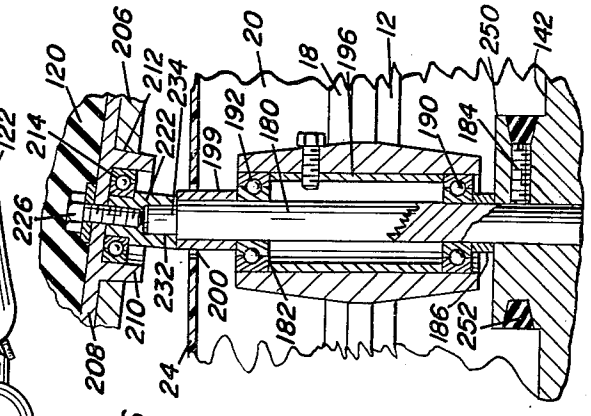


Fig. 6

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MASSAGE MACHINE

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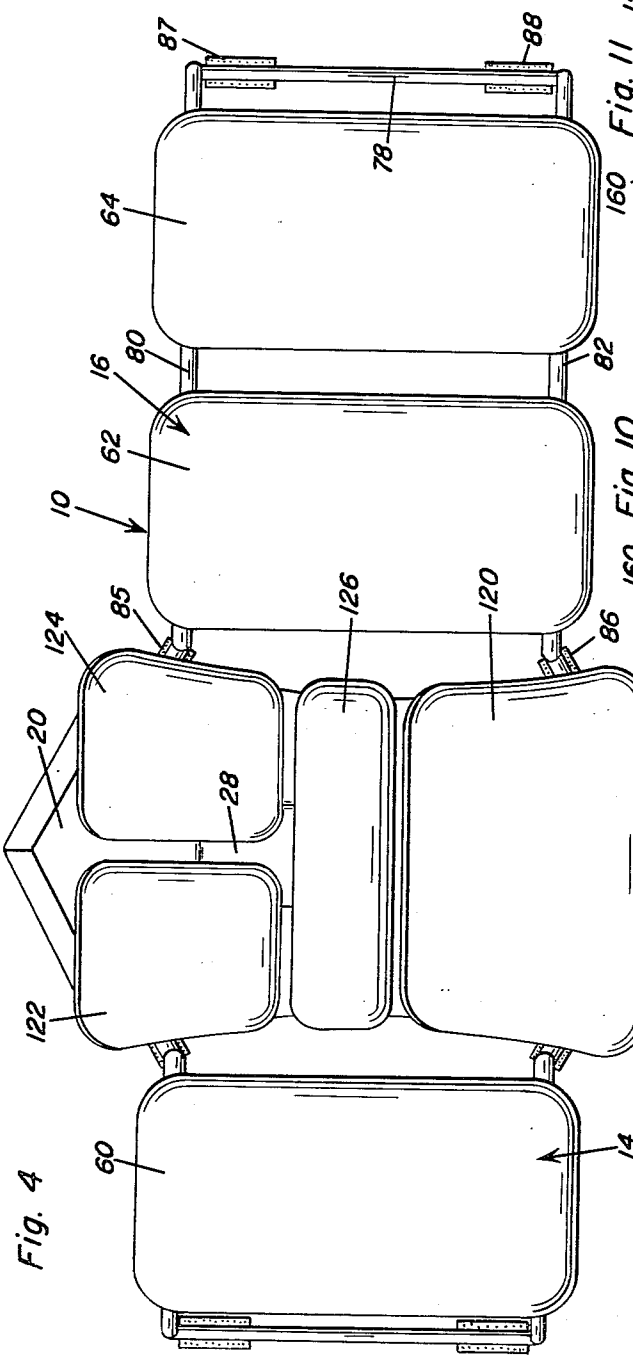


Fig. 4

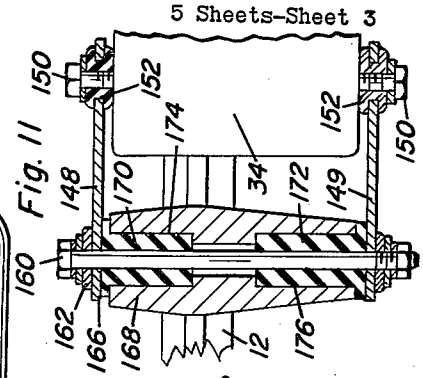


Fig. 11

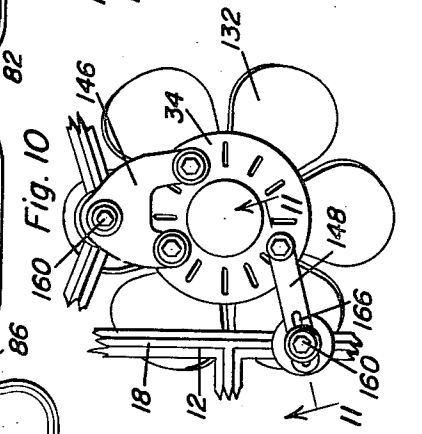


Fig. 10

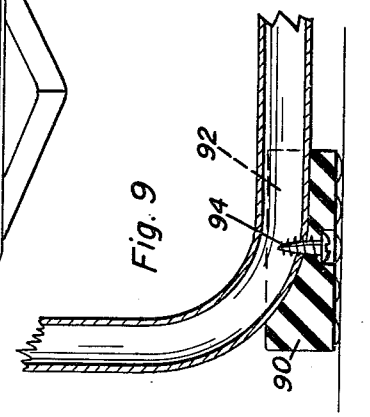


Fig. 9

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MASSAGE MACHINE

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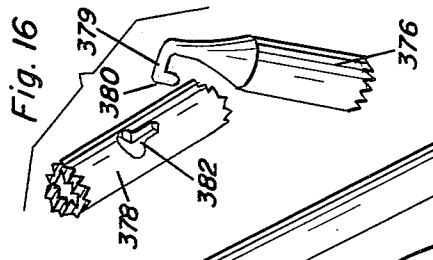


Fig. 16

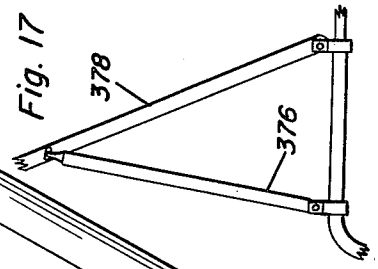


Fig. 17

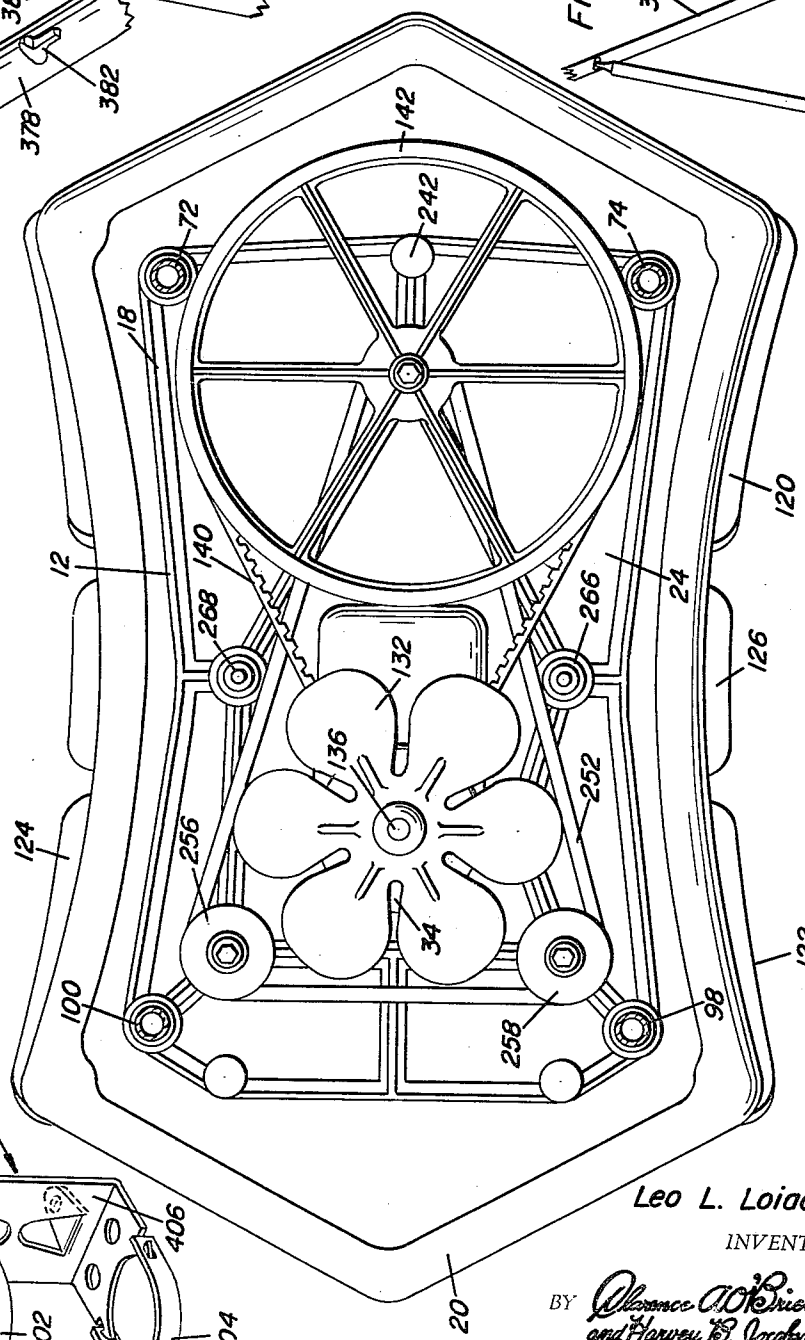


Fig. 5

Fig. 15

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MASSAGE MACHINE

Filed June 9, 1959 5 Sheets-Sheet 5

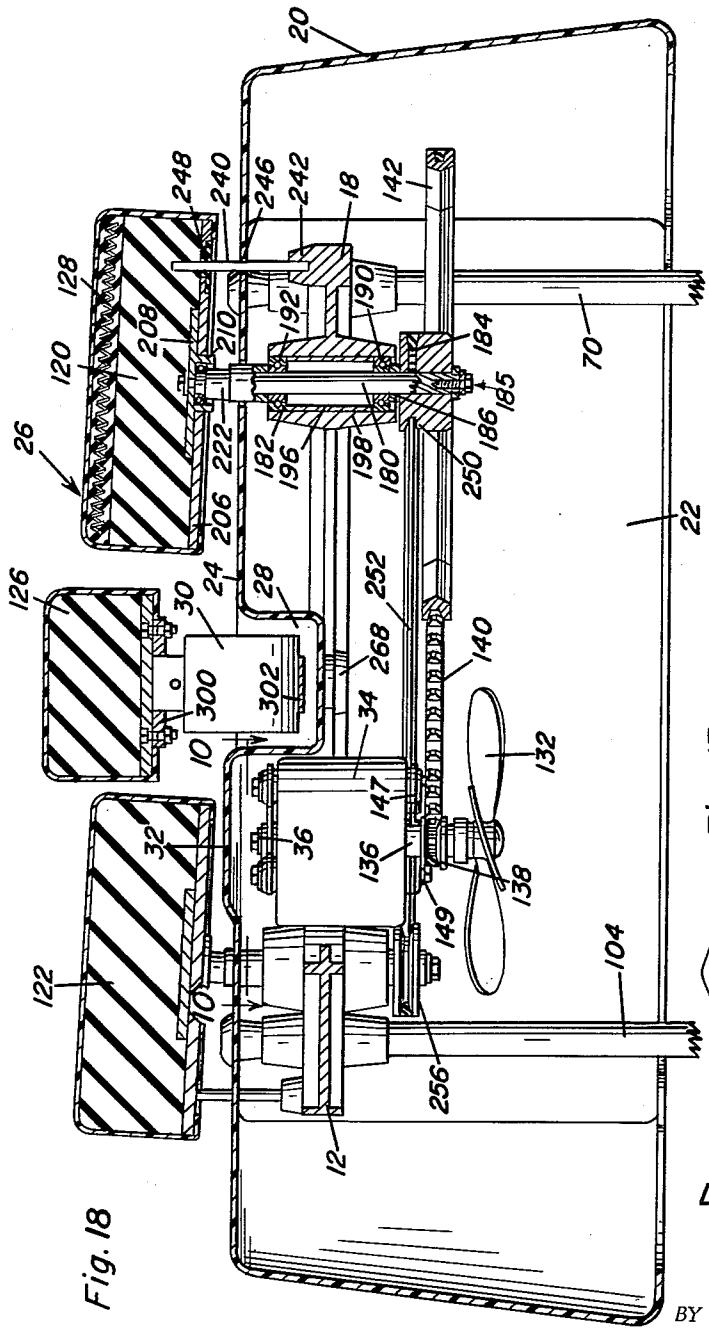


Fig. 18

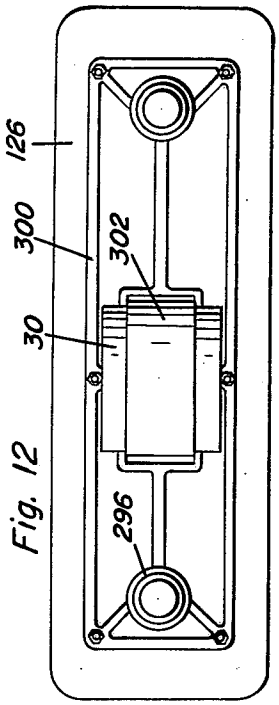


Fig. 12

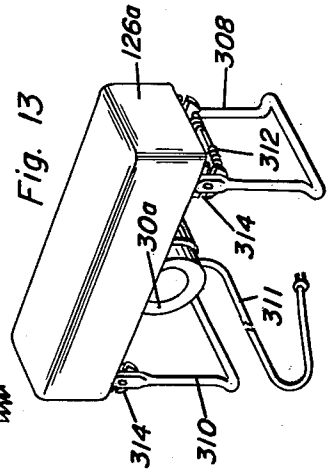


Fig. 13

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3,062,205

MASSAGE MACHINE

Leo L. Loiacano, Weatherford, Tex., assignor to Evans O. Le Blanc, Sulphur, La.

Filed June 9, 1959, Ser. No. 819,159

19 Claims. (Cl. 128—33)

This invention relates to massage equipment and more particularly to a machine for promoting and inducing relaxation through vibratory massage.

Prior vibrating machines of the general class within which this machine could be categorized, are rather complex and are subject to mechanical failure and fatigue. Often earlier machines relied on springs and complex mechanical movements to produce the necessary vibratory motion. Accordingly, a general object of the invention is to provide a structurally improved vibratory massage machine which performs the intended functions in a highly satisfactory manner with little or no vibration transmitted to the supporting surface, usually a floor, and without reliance on complex linkages or springs, the linkages generating inertia and noise problems and coil springs being ordinarily subject to squeaking and loss of resilience and elasticity over extended periods of use.

The structural nature of the vibratory massage machine makes production of a high quality machine practical. Briefly, the massage machine is constructed of a frame provided with a durable case attached to the frame by shock mounts. There is a group of replaceable pads and independently supported above the frame and preferably arranged to form a gentle arch. Some of these pads are caused to move in an orbital path of travel, each revolving in its own path of movement. The drive for each of the orbitally moving pads is exceedingly simple and effective. One of the pads is detachably connected to the machine frame, again by means of shock mounts, and it has an independent vibrator operating at a much higher frequency than the orbital travel of the other pads. The additional pad, being detachable, is capable of being used in coordination with the other pads and also independently of the other pads for spot applications. Furthermore the additional pad may be used as a stool on which to sit or on which to rest the feet, ankles, calves, neck, etc. of the user of the machine. Accordingly, the different pads supporting different parts of the human anatomy are operative to simultaneously apply massaging forces at different frequencies deemed best suited for the associated part of the human anatomy, the frequency variation in itself producing additional lower beat frequencies for further massaging action.

Even though the massage machine is fully capable of studio use, it is most adaptable for home use when space limitations and appearance are factors meriting serious consideration. Accordingly, there are cushions supported by a pair of outriggers, and the outriggers are detachably connected with the frame of the machine. There is the option of using either or both of the outriggers simultaneously with the cluster of pads.

A unique feature of the machine is found in the outrigger. Each of them is constructed of a pair of inner legs swivelly secured to the frame of the machine and a pair of outer legs. Members attached to the inner and outer legs are separably connected together and form a base on which to detachably support the cushions. The outriggers may extend in one direction from the frame and may be adjusted to extend from another position rotated approximately 90° from the first position by separating the cushion supporting members and swinging the inner legs 90° with respect to the frame. Then the outer legs and members may be secured to the inner legs and members, selecting one leg and member from the original pairs. In this way the inner legs need not ever be separated from the frame, except when it is desired to completely remove the outriggers from the frame.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a side elevational view of a vibratory massage machine showing it in one position.

FIGURE 2 is an end view in elevation of the machine in FIGURE 1.

FIGURE 3 is a top view of the machine in FIGURE 1.

FIGURE 4 is a top view of the machine in FIGURE 1 but showing the outrigger cushion supports in a second position.

FIGURE 5 is a sectional view on an enlarged scale and taken on the line 5—5 of FIGURE 1, portions of the outriggers being omitted for clarity.

FIGURE 6 is an enlarged sectional view taken on the line 6—6 of FIGURE 1 and showing the means for supporting one of the pads and also a portion of the means for constraining the motion of the pad to orbital movement.

FIGURE 7 is an enlarged sectional view taken on line 7—7 of FIGURE 1 and showing one of the shock mounts for one of the pads.

FIGURE 8 is an enlarged sectional view taken on the line 8—8 of FIGURE 1 and showing the preferred manner of attaching one of the outrigger legs to the machine frame.

FIGURE 9 is an enlarged sectional view taken on the line 9—9 of FIGURE 1 and showing one of the resilient feet of the machine.

FIGURE 10 is an enlarged fragmentary view taken approximately on the line 10—10 of FIGURE 18, portions of the equipment being omitted and showing principally the resilient mount for the motor of the machine.

FIGURE 11 is an enlarged sectional view taken on the line 11—11 of FIGURE 10 and showing the shock mount for the motor of FIGURE 10.

FIGURE 12 is a bottom view of the additional pad in the group of pads that are supported above the frame of the machine.

FIGURE 13 is a perspective view showing a modification of the pad in FIGURE 12, the modification providing for folding legs by which to use the pad as a stool.

FIGURE 14 is an exploded perspective view showing the frame of a modification of one of the outrigger cushion supports.

FIGURE 15 is a modified mount for the motor.

FIGURE 16 is a fragmentary perspective view showing another outrigger frame modification.

FIGURE 17 is a side view showing the frame modification of FIGURE 16.

FIGURE 18 is a vertical sectional view of the machine.

In the accompanying drawings there is a vibratory message machine 10 which has frame 12 together with outrigger cushion supports 14 and 16' operatively connected with the frame. Frame 12 is constructed of a casting 18 to which case 20 is secured. The case is preferably made of lightweight plastic or plastic-like substance possessing a neat appearance and being very durable. For example, the case may be made of plastic reinforced fiberglass which is die cast or spray molded. The case has a side wall 22 together with an upper wall 24 above which a group or cluster of pads 26 are disposed. There is an upwardly opening recess 28 in wall 24 to accommodate vibrator 30 of one of the pads in the group 26. Other curvatures may be made in wall 24 to serve other specific purposes, for example, there is a bulge 32

in order to assure enough space for properly locating the single drive motor 34 and a portion of its shock mount 36. Top wall 24 of case 20 is used to fasten the case to the frame 12. Although the drawings show top wall 24 attached to the frame 12 at four places, it is evident that this number may be increased or decreased. The actual connections are made of means of mounting devices which transmit very little vibration. These devices are made of an elastomeric substance, for instance rubber and a typical device is shown in FIGURE 8. The device 38 is a grommet having a head 40 beneath which circumferential groove 42 accepts and retains a part of wall 24 at the edge of opening 44 through which the grommet tapered side wall is passed. The lower end of the grommet side wall has a wall 46 provided with an aperture 48 through which bolt 50 extends. The bolt is in a tapped opening of boss 52, the upper part of the boss containing an upwardly opening socket 54 within which the lower part of the tapered wall of the grommet is located. The lower end of the boss has a downwardly opening socket 56 accommodating a leg which shall be described in more detail subsequently. It is pointed out, though that the boss 52 serves the dual purpose of aiding in support of case 20 and wholly supporting one of the legs. Boss 52 may be cast integral with casting 18, this being the simplest manufacturing technique. Devices identical to devices 38 are at four corners of frame 18 (FIGURE 5) there being one such device for each of the four inner legs of outrigger supports 14 and 16.

Outriggers 14 and 16 are made the same. It has been found that one head supporting cushion 60 for outrigger 14 is sufficient, but two leg supporting cushions 62 and 64 are preferable for outrigger 16. Should the owner wish the two cushions 62 and 64 may be made part of outrigger 14, and outrigger 16 may be equipped with a single cushion. Furthermore, any combination of cushions may be used, for example the outrigger supports may each contain only a single cushion or each contain two cushions.

Outrigger cushion support 16' has a pair of inner legs 70 and 72 and a pair of outer legs 74 and 76. The outer legs have a lower transverse brace 78 together with a pair of upper frame members 80 and 82. Inner legs 70 and 72 are each U-shaped and have frame members 84 and 86 at their upper ends. The frame members are extensibly connected with frame member 80 telescoped in frame member 84 and frame member 82 telescoped in frame member 86. Accordingly, the outer legs 74 and 76 are separable from the inner legs as a unit. Four resilient feet 85, 89, 87 and 88 are attached to the lower ends of the legs, each of the feet consisting of a resilient pad 90 (FIGURE 9) having an upwardly opening channel 92 within which a portion of the leg is supported. A fastener, for instance self-tapping screw 94 is used to attach the resilient pads to the legs. Outrigger cushion support 14 is identically constructed and includes inner legs 98 and 100 together with outer legs 102 and 104. Each of the inner legs is swivelly connected with frame 18 in the manner partially described. Typical legs 98 (FIGURE 8) is shown in detail. The downwardly opening socket 56 receives the upper end of leg 98 and is held captive by means of bolt 108 which has a lock nut 110 thereon and which is threaded into boss 52 in a position so that the inner end of the bolt penetrates socket 56. Circumferential groove 112 is in the upper extremity of leg 98 to form a raceway for the inner end of bolt 108. Accordingly, leg 98 can swivel but is not separable from socket 56 unless the bolt 108 is loosened or unless a different provision is made such as a longitudinal slot in the side wall of leg 98 which would register with circumferential groove 112 thereby forming a passageway by which to receive the inner end of bolt 108 when it is registered with the bolt and the leg is pulled outwardly of socket 56.

The group 26 of back supporting pads includes spaced pads 120, 122, and 124. Shoulder supporting pads 122 and 124 are adjacent to each other and spaced from the buttock supporting pad 120. Additional ileum supporting pad 126 is located in the space between pad 120 and pads 122 and 124. Further, pad 126 is disposed at an elevation slightly higher than the other pads in group 26 in order to cooperate with the other pads and form a gentle arch necessary to provide the back supporting surface for the human anatomy. All of the pads have a bottom, an insert of resilient material and a covering. Pad 120 preferably has an electric heater 128 to take advantage of heat therapy during or in place of vibratory massage, and the other pads can also have heaters.

Pads 120, 122 and 124 are simultaneously operated. The movements of each are orbital, and each has its own independent movement obtained from operation of a single electric motor 34. The electric motor has a cooling fan 132 at the lower end of the shaft thereof, motor shaft 136 also having a drive sprocket 138 secured thereto. A silent operating flexible belt 140 is engaged with the sprocket 138 and engaged with a comparatively large diameter drive pulley 142. Motor mount 36 consists of a pair of upper motor mount brackets 146 and 148 respectively which are bolted to the top of the motor case and which are bolted to frame 12. FIGURE 11 shows that the motor mount bolts 150 are set in resilient grommets 152 so that the upper and lower brackets 146, 148, 149 and 147 do not come into mechanical contact with motor 34. Bolts 160 are attached to the upper and lower motor mount brackets and here again, resilient washers 162 are used. The upper and lower brackets 148 and 149 have slots 166 therein so that the motor may be swung to a selected position and tightened in place in order to tighten the drive belt 140. Bolt 160 is connected with the casting 18 of frame 12 by being passed through boss 168 and through the resilient bushings 170 and 172 held captive in sockets 174 and 176 of the boss 168. Bolt 160 and the mounting assembly for it is duplicated for the upper and lower brackets 146 and 147.

Shaft 180 is mounted for rotation in a special bearing 182 and has the pulley 142 secured to it, for instance by setscrew 184 as shown in FIGURES 18 and 6. A retaining bolt and washer assembly 185 is secured to the lower extremity of the shaft 180 and prevents the pulley 142 from downthrust movement. An upper spacer 186 is located above pulley 142 and is in contact with the lower anti-friction bearing 190. There is an upper anti-friction bearing 192 engaged with shaft 180, and the two anti-friction bearings are held spaced apart by liner 196 held within the hollow boss 198. The upper end of shaft 180 is passed through a sleeve 199, and this extends through an aperture 200 in the top wall 24 of case 20. Shaft 180 constitutes a part of the means for supporting pad 120 and also a part of the means for actuating the pad. Bottom 206 of pad 120 has a plate 208 secured to it, and there is a short bearing retainer 210 depending from plate 208 and passing through an aperture 212 in bottom 206. Anti-friction bearing 214 is in the bearing retainer 210, and the inner race thereof fits against the side wall of an eccentric 222. The eccentric is held fast within the inner race of anti-friction bearing 214 by a bolt 226 that is attached to plate 208 and threaded into a tapped opening of eccentric 222. The lower downwardly opening socket 232 of eccentric 222 is mounted on the upper end 234 of shaft 180. Consequently, when shaft 180 is rotated the eccentric 222 is also rotated and this rotational movement is imparted to pad 120 by way of the anti-friction bearing 214.

In order to obtain the required and desired orbital motion of pad 120 there is a movement constraining pin 240 anchored at its lower end in a socket 242 of frame casting 18. The pin extends through an opening 246 in the top wall of case 20 and is passed through a resil-

ient bushing or apertured grommet 248 disposed in an opening of pad bottom 206. The upper extremity of the pin 240 is within the pad. Therefore, the resilient bushing grommet 248 constrains the motion of the pad by having the stationary pin 240 passed therethrough. Pads 122 and 124 have identical means for both supporting them and constraining the movement of each as described in connection with pad 120 and shown in detail in FIGURE 6. However, the means for rotating the shafts for pads 122 and 124 are different from those described in connection with the rotation of shaft 180.

The main pulley 142 is a comparatively large diameter pulley and as described, the pulley 142 is secured directly to shaft 180. Pulley 142 is a double pulley having a pulley section 250 at the hub thereof and within which an endless belt 252 is engaged. The diameter of pulley section 250 is considerably smaller than the diameter of pulley 142 so that the lineal speed of belt 252 is different from the lineal speed of pulley 142. Belt 252 is engaged with pulleys 256 and 258 which are secured to the lower extremities of the shafts which support pads 124 and 122 respectively. Pulleys 256 and 258 are comparatively small in diameter so that the frequency of orbital motion of the pads 122 and 124 is different from the frequency of pad 120.

Pad 126 which is referred to as an additional pad, although it is a pad of the cluster or group 26, is separably attached to the frame 12 by means of shock mount detachable fastening devices 266 and 268. Typical shock mount fastening device is shown in FIGURE 7 and consists of a resilient coupling 270 having sockets 272 and 274 diametrically opposed at its ends. Concentric sleeves 276 and 278, each having circumferential beads 280 and 282 at the outer extremities thereof, are in sockets 272 and 274. An upwardly opening boss 284 which constitutes part of casting 18, has a bore and counterbore 288 and 290. Sleeve 278 fits into the bore 290 and the rib or bead 282 fits into bore 288 resting on the shoulder between the bore and counterbore. Upper sleeve 276 is similarly fitted into a hollow nipple 296 having a shoulder 298 intermediate its ends. Bead 280 seats on shoulder 298, and since the nipple 296 is part of a bottom casting 300 of pad 126, the pad 126 is resiliently and detachably secured to frame 12. It is removed simply by lifting upwardly on the pad thereby separating sleeve 276 from nipple 296, the bead 280 being more easily flexed than bead 272. Attention is called to the fact that pad 120 operates at a different frequency from pads 122 and 124. Further, pad 126 operates at a different frequency from any of the other pads by having vibrator 30 attached by clamp 302 to the frame 300. As shown in FIGURE 13, the pad 126*a* is a modification of pad 126 inasmuch as it has a pair of legs 308 and 310. In both cases, though, the vibrator 30 and 30*a* is separately energized, an electric cord 311 diagrammatically representing this. Vibrator 30 and vibrator 30*a* are merely motors with eccentrics driven by them or may be selected from the available group of different types of vibrators.

Legs 308 and 310 are biased by torsion springs 312 to the folded position beneath pad 126*a*. Snap locks 314 are at the pivot connections between the legs and the pad 126*a* so that the legs may be swung to an open position and locked in place when pad 126*a* is to be used as a stool, a neck, head, leg, ankle, foot, etc. rest. Further, legs 310 and 308 are of open frame construction so that they may be used as handles should the user desire to employ them to hold pad 126*a* on selected areas of the body for spot vibration and massage.

A number of attachments may be used with the massage machine such as heat lamps, a timer and others. A handy control panel 318 (FIGURE 1) having a group of switches, is attached to case 20 at a convenient place so that the vibrator 30, motor 34, timer, etc., may be easily energized and de-energized.

There are a number of suggested basic positions for using the machine. By and large this is a matter of selection and choice with the prerogative of the owner of the machine. However, it is to be noted that not only is the machine capable of what is considered to be a unique massage pattern with various frequencies of vibration available and numerous possible applications and uses but also there are a number of available options all leading toward facility to relaxation. The massage machine may be used as a lounge with or without massage and/or heat.

As shown in FIGURE 14 an outrigger frame of slightly different configuration may be used to replace one or both of the outrigger frames shown in FIGURE 1. The modified outrigger frame 350 has inner leg members or legs 70 and 72 and a pair of frame members 84 and 86 which are identical to the responsive leg and frame members of outrigger cushion support 16. Outer legs 352 and 354 are very much similar to legs 74 and 76, and they have upper frame portions which are slidably received and telescoped in members 84 and 86. There is a slight difference in angularity of legs 352 and 354, but the principal distinction between the outrigger cushion support 350 and outrigger cushion support 16 (or 14) is that there is an upper, adjustable essentially rectangular base 358 connected by trunnions 360 to members 84 and 86 are adapted to adjust in a vertical plane so that the device may be used as a lounge so that different angular positions of one or more of the cushions may be achieved.

There are means for molding base 358 in a selected elevated position, and these may be varied. Telescoping extension tube assemblies 362 and 364 are pivotally connected to base 358 and to a transverse lower frame member 368 which is connected to the lower ends of legs 352 and 354 and which supports rubber feet. A conventional screw type lock 370 is operatively connected between the extensible parts of the assemblies 362 and 364 in order to hold the parts in a selected extended position and thereby hold the cushion supporting base 358 in a corresponding angular position.

FIGURES 16 and 17 show that the extensible assemblies 362 and 364 may be replaced by links 376, there being one on each side of cushion supporting base 378 which responds in function and substantially in construction to base 358. Pin 379 having an enlargement 380 at one end thereof and attached to link 376 is engageable in keyhole slot 382 formed in a side of base 378 thereby releasably locking the upper end of link 376 with base 378 and holding it in an elevated position. It is thought that the principal distinctions between FIGURES 17 and 14 is that link 376 is pivotally connected to the upper horizontal frame member, for instance, members 84 and 86, whereas the extensible assemblies 362 and 364 are connected with the lower leg brace 368.

FIGURE 15 discloses a mounting bracket 400 for the motor of the machine. The mounting bracket of FIGURE 10 is suited for motors of the type disclosed in FIGURE 10. However, other manufacturers' makes of motors are more suited for mounting by using a mounting bracket such as disclosed in FIGURE 15, where there is upper and lower straps 402 and 404 carried by bracket structure 406 that would be bolted in place in the machine.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A machine to induce relaxation through vibratory massage, said machine comprising a frame, a plurality of pads, a shaft drivingly connected with each pad and

thereby supporting said pads above said frame structure, a motor carried by said frame, means drivingly connected with said motor for rotating said shafts, resilient means disposed on said pads and engageable with said frame for constraining movement of said pads to out of phase orbital paths with different frequencies in response to rotation of said shafts, said pads being spaced from each other, an additional pad disposed between said spaced pads, and resilient means mounting said additional pad above said frame.

2. A machine to induce relaxation through vibratory massage, said machine comprising a frame, a plurality of pads, a shaft drivingly connected with each pad and thereby supporting said pads above said frame structure, a motor carried by said frame, means drivingly connected with said motor for rotating said shafts, resilient means disposed on said pads and engageable with said frame for constraining movement of said pads to out of phase orbital paths with different frequencies in response to rotation of said shafts, said pads being spaced from each other, an additional pad disposed between said spaced pads, and resilient means mounting said additional pad above said frame, at an elevation slightly higher than said spaced pads to cooperate with said spaced pads in forming an arched contour.

3. A machine to induce relaxation through vibratory massage, said machine comprising a frame, a plurality of pads, a shaft drivingly connected with each pad and thereby supporting said pads above said frame structure, a motor carried by said frame, means drivingly connected with said motor for rotating said shafts, resilient means disposed on said pads and engageable with said frame for constraining movement of said pads to out of phase orbital paths with different frequencies in response to rotation of said shafts, said pads being spaced from each other, an additional pad disposed between said spaced pads, resilient means mounting said additional pad above said frame, and a separate vibrator attached to said additional pad and operable at a frequency substantially higher than the frequencies of orbital movement of said spaced pads.

4. The machine of claim 3 wherein resilient mounting means for said additional pad separably connect said additional pad to said frame so that said additional pad is removable for local spot application.

5. The combination of claim 4 wherein there are legs connected with said additional pad to support the pad in a position to function as a vibratory stool.

6. The machine of claim 3 wherein said frame includes a frame structure, and a case connected to said frame structure and having an upper wall provided with a recess in which said separate vibrator is disposed.

7. A machine to induce relaxation through vibratory massage, said machine comprising a frame, a plurality of pads, a shaft drivingly connected with each pad and thereby supporting said pads above said frame structure, a motor carried by said frame, means drivingly connected with said motor for rotating said shafts, resilient means disposed on said pads and engageable with said frame for constraining movement of said pads to out of phase orbital paths with different frequencies in response to rotation of said shafts, each pad being drivingly connected to its shaft by an eccentric, said resilient means being engageable with movement constraining pins rigidly connected to said frame, an additional pad separably attached to said frame, and a vibrator attached to said additional pad.

8. A massage machine comprising a frame, a cluster of pads carried by said frame and including at least a first pad and a spaced second pad and a third pad spaced from said first and second pads at a slightly higher elevation to form an arch contour therewith, means for simultaneously orbitally moving said first and second pads at different frequencies, and independent means for vibrating said third pad at a still further frequency with a characteristically different motion.

9. A massage machine comprising a frame, a cluster of pads carried by said frame and including at least a first pad and a spaced second pad and a third pad spaced from said first and second pads at a slightly higher elevation to form an arch contour therewith, means for simultaneously orbitally moving said first and second pads at different frequencies, independent means for vibrating said third pad and at a still further frequency with a characteristically different motion, and resilient means detachably securing said third pad to said frame whereby said third pad may be removed for spot application.

10. The combination of claim 9 including outrigger cushion supports adjustably attached to said frame and movable to selected positions with reference to said frame.

11. A massage machine comprising a frame, a cluster of pads carried by said frame and including at least a first pad and a spaced second pad and a third pad spaced from said first and second pads at a slightly higher elevation to form an arch contour therewith, means for simultaneously orbitally moving said first and second pads at different frequencies, independent means for vibrating said third pad and at a still further frequency with a characteristically different motion, resilient means detachably securing said third pad to said frame whereby said third pad may be removed for spot application, said means for orbitally moving said first and second pads including shafts provided with eccentrics operatively connected with said first and second pads, and motion restraining means attached to said frame and resiliently connected with said first and second pads by resilient means disposed on said pads.

12. The combination of claim 11 wherein there are outrigger cushion supports adjustably carried by said frame and movable to selected positions with reference to said frame.

13. The massage machine of claim 12 wherein at least one of said outrigger cushion supports includes a cushion supporting frame base, an adjustable means to hold said base in selected elevated position in a vertical plane.

14. In a massage and reducing device, rigid frame means, shaft means extending upwardly through said frame means, drive means for rotating said shaft about a rotational axis therethrough, pad means rotatably mounted on an upper projecting end of the shaft means about an axis inclined with respect to said rotational axis, resilient means mounted on the pad means and stationary constraining means fixedly anchored to the rigid frame means and projecting upwardly therefrom parallel to said shaft means and engaging the resilient means to produce yieldably constrained vibratory movement of the pad means in response to rotation of the shaft means.

15. The combination of claim 14, wherein said resilient means comprises an apertured grommet through which the constraining means extends mounted on an underside of the pad means.

16. The combination of claim 15, wherein said constraining means comprises a rigid rod extending upwardly from the frame means and protectively concealed beneath the pad means.

17. In a massage device, horizontal frame means, at least one shaft extending upwardly through said frame means terminating at a location above said frame means, eccentric bearing means fixed to said shaft above the frame means, a cushion fixed to said eccentric bearing means for free rotation about said bearing means, elastically yieldable constraining means fixed to said cushion at one location separate from said bearing means and in spaced relation thereto, and rigid means fixed to said frame means and extending upwardly therefrom parallel to said shaft and engaging said yieldable constraining means to produce orbital movement of the cushion in response to rotation of the shaft.

18. An exercise and massage machine comprising frame means, fixed support means secured at opposite ends of said frame means, spaced body supporting means movably mounted by the frame means centrally thereof, arch-forming support means yieldably mounted on the frame means between said spaced body supporting means to form therewith a back supporting surface, power drive means for moving said body supporting means in orbital paths relative to said frame means at predetermined frequencies, and power drive means for vibrating said arch-forming support means relative to the frame means independently of said body supporting means at a frequency substantially higher than said predetermined frequencies.

19. The combination of claim 18 wherein each of said body supporting means comprises a shaft extending upwardly through said frame means terminating at a location above said frame means, eccentric bearing means fixed to said shaft above the frame means, a cushion

fixed to said eccentric bearing means for free rotation about said bearing means, elastically yieldable constraining means fixed to said cushion at one location separate from said bearing means and in spaced relation thereto and rigid means fixed to said frame means and extending upwardly therefrom parallel to said shaft and engaging said yieldable constraining means to produce orbital movement of the cushion in response to rotation of the shaft by the power drive means.

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