United States Patent [19]

McNair

[11] **3,830,232**

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[54] **FOOT OPERATED FOOT MASSAGER**

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[73] Assignee: **Dazey Products Company,** Kansas City, Mo.

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[52] **U.S. Cl.** ..... **128/33,** 128/25 B, 128/41

[51] **Int. Cl.** **A61h 1/00**

[58] **Field of Search** ..... 128/32–36, 128/24.2, 25 B

[56] **References Cited**

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Primary Examiner—Lawrence W. Trapp

Attorney, Agent, or Firm—Lowe, Kokjer, Kircher, Wharton & Bowman

[57] **ABSTRACT**

A hollow housing has mounted to the inside top an electric vibrator motor. The base of the housing is supported by a resilient floor contacting member which permits downward movement of the housing when the top is pressed by a foot. An electric switch is positioned to start the vibrator motor when the housing is depressed by foot contact. Selective heating means for the top surface is included.

3 Claims, 5 Drawing Figures

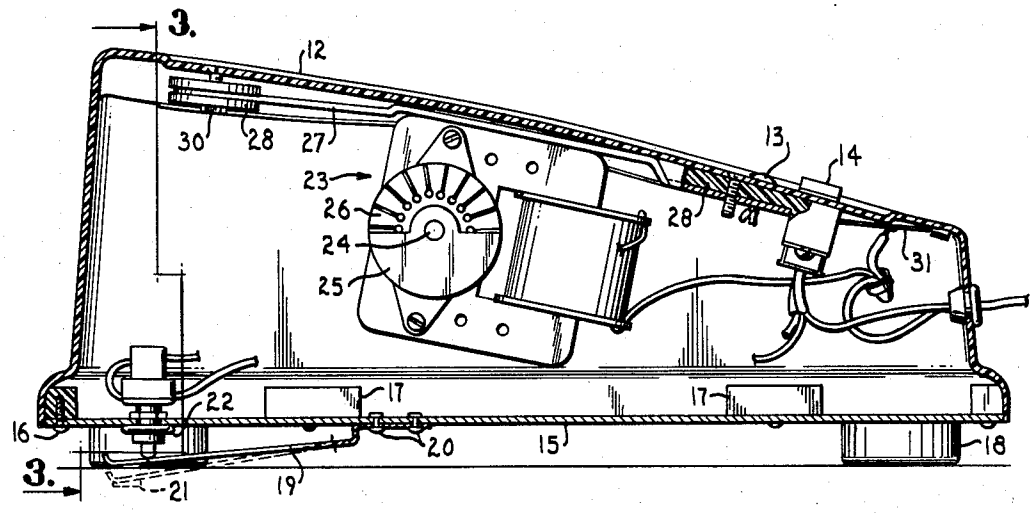

Fig. 1.

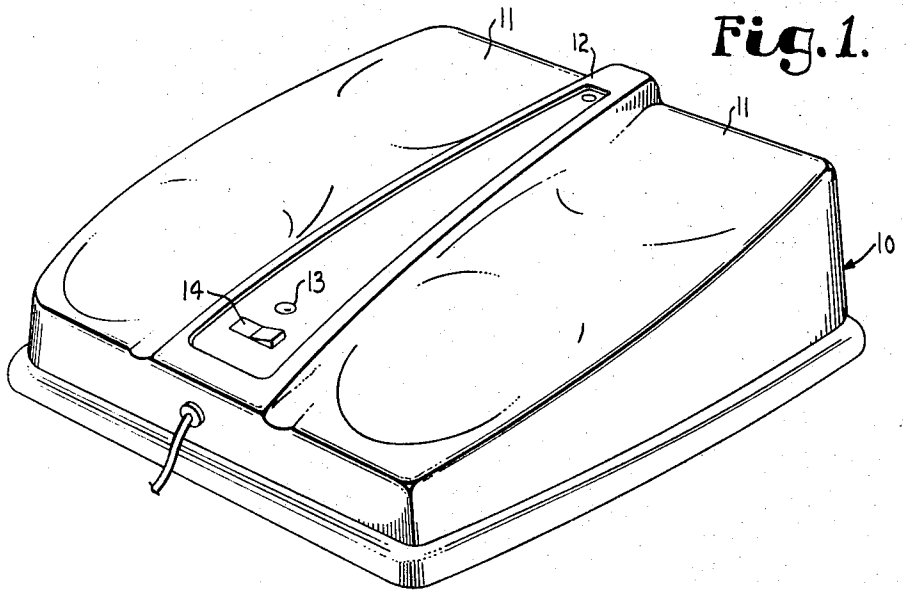

Fig. 5.

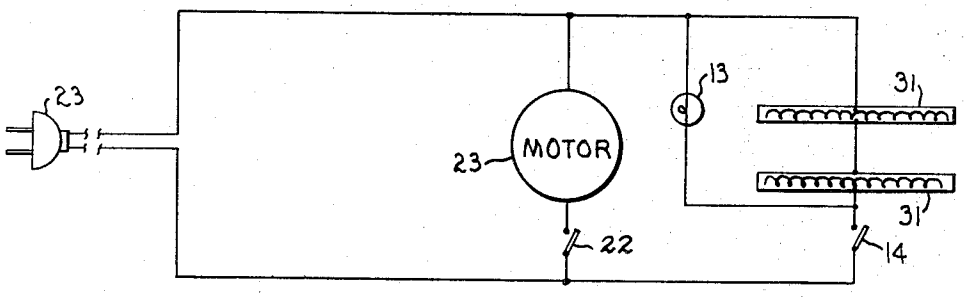

Fig. 2.

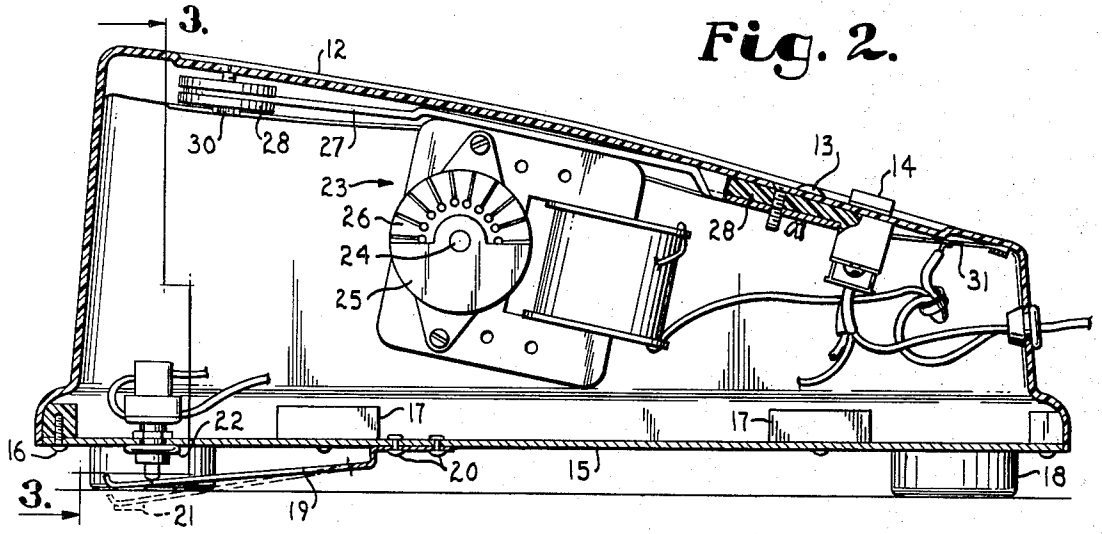

Fig. 3.

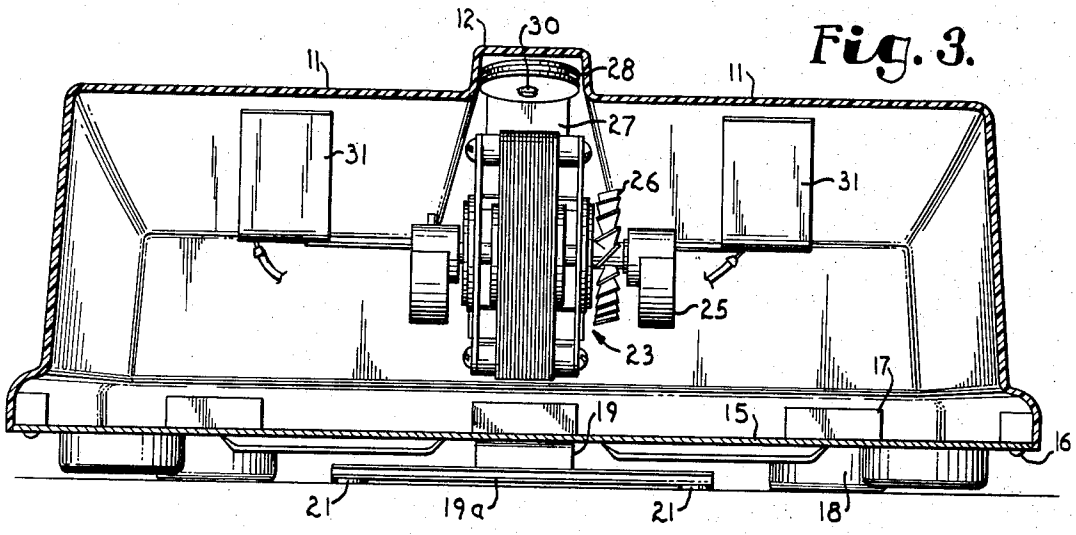
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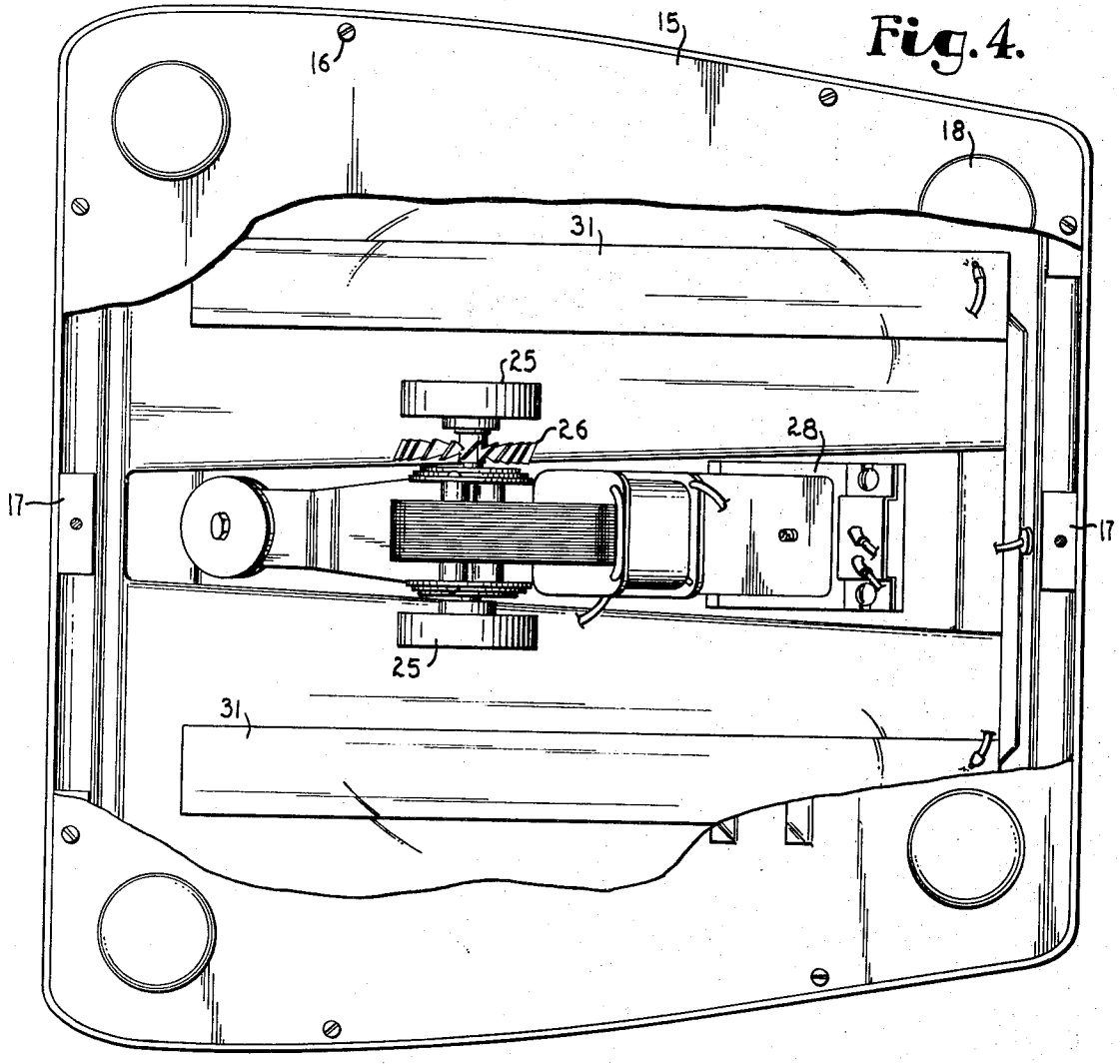
Fig. 4.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FOOT OPERATED FOOT MASSAGER

BACKGROUND AND SUMMARY OF THE INVENTION

Appliances for accommodating the sole of the foot and thereby applying vibratory massage to the foot or feet have been known for a long time. However, they have, for the most part, been rather cumbersome, expensive and inconvenient to use.

One of the principal objects of the present invention is to provide a simple, lightweight foot massager which lends itself particularly to domestic use with a minimum of expense and difficulty of operation. Another and related object is to provide a foot massager in which the operational control, i.e., starting and stopping, need not require manual operation of switches, rheostats and the like. In my invention, the simple placing of the foot in position on the massager and application of slight pressure causes the massager to operate. By the same token, upon release of the pressure, the massager will stop.

A further object of the invention is to provide a massager of the character described, in which massage can selectively be accompanied by application of heat to the foot sole and whereby control of "heat on" or "heat off" can be by the foot also.

Still another object of the invention is to provide in a foot massager of the character described, a simple and effective vibrator assembly which produces vibrations of substantial amplitude at low cost and energy requirements.

Other and further objects of the invention, together with the features of novelty appurtenant thereto will appear in the course of the following description.

DETAILED DESCRIPTION

In the accompanying drawings, which form a part of the specification and are to be read in conjunction therewith, and in which like reference numerals indicate like parts in the various views:

FIG. 1 is a rear perspective view of a foot massager embodying the invention;

FIG. 2 is a longitudinal sectional view of same on a somewhat enlarged scale;

FIG. 3 is a sectional view taken along line 3—3 of FIG. 2 in the direction of the arrows;

FIG. 4 is a bottom plan view with portions of the bottom closure broken away to reveal inside structure; and

FIG. 5 is a schematic showing the electrical circuitry for the unit.

Referring now to the drawings, the reference numeral **10** indicates generally a hollow casing, preferably molded of a good quality plastic such as Norel or Lexan. It has a top surface providing two foot-receiving sections which are contoured generally to accord with the sole of the human foot. A console or divider portion **12** is located between the sole-receiving sections. The console includes an indicator lamp **13** and a two-position switch **14** which controls the energization of the heating means later to be described.

The casing **10** has an open bottom which, as can be best seen in FIGS. **2, 3,** and **4,** is filled by a closure plate **15.** Plate **15** is a thin, preferably metallic plate, and is secured to the casing **10** by a plurality of screws **16** which are received in corresponding bosses **17** molded into and projecting inwardly from the lower edge of the casing.

The bottom plate **15** has secured to it four support pads **18,** which are located near the corners. These pads are preferably rubber or other resiliently flexible material.

Also attached to the bottom plate **15,** toward the forward portion thereof, is a floor contacting member **19** which is in the nature of a relatively strong leaf spring, having one end anchored to the bottom plate as at **20.** The other end of spring **19** has a T-like crosshead **19*a***, with rubber or felt pads **21** at the outer tips. The configuration of the floor contacting member **19** is such that in the normal position of the unit, that is without any feet applied to it, the front pad **18** will be supported off the floor, with the entire support for the front of the unit being applied by the floor contacting member **19.** The normal position is that illustrated in FIG. **3,** and the relationship of the floor contacting member **19** with the base when the unit is not is use is shown by the broken line position of FIG. **2.**

The floor contacting member coacts with the plunger of a plunger-type electric switch **22,** which is affixed to the bottom plate **15.** The switch is of the type when the plunger is up, the switch is on and when it is down, it is off.

Turning now to the inside of the casing, the vibrator motor **23** is supported near the inside top. The motor is an electric motor, having the rotary driven shaft **24.** The shaft **24** has mounted at its outer ends eccentric portions **25,** which serve to unbalance the shaft. The shaft also carries a fan portion **26,** which operates to drive cooling air over the motor when in use.

The motor is supported from an elongate bar or strap **27,** which is supported at its ends by screws extending down through the top. The screws extend through rubber shock absorbers or mounting grommets **28** and **29.** The rear screw is directly connected with the bar member **27;** however, the front screw passes loosely through an aperture in the bar where it receives a nut **30.** The forward portion of the bar **27** is thus free to move slightly up and down on the forward screw, with the rubber grommet serving to resiliently relieve the reversals of direction of movement.

Heating elements in the form of electric resistance members incorporated in a thin fabric are shown at **31.** These are adhered by appropriate adhesives to the underside of the sole-receiving sections **11** of the casing. They are interconnected in the electric circuitry as shown in FIG. **5.**

In operation, the electric cord to the unit is connected by the wall plug **33** to an appropriate wall outlet. The unit is now ready for operation. The user simply places one or both feet on the foot-receiving sections **11** and presses downward. As pressure is applied, the forward portion of the casing will descend toward the floor against the resilient resistance of the floor contacting member **19.** When it has moved almost into contact with the floor, the plunger switch **22** will close the circuit to the motor, thus starting rotation of the motor. The rotation of the motor is obviously accompanied by substantial vibration, since the eccentrics **25** serve to unbalance the output shaft **24** of the motor. The vibration is transmitted through bar **27** and through the connections with the casing to the casing itself, which vibrates in a very pronounced fashion.

If heat is desired in addition to massage, the toe can be used to move switch **14,** thus to close the circuit to the heating elements **31,** which will provide a radiant heat effect to the feet. The unit can be shut off completely (including the heating means) by simply relieving the foot pressure on it; whereupon the floor contacting member will cause the unit to rise sufficiently to again open the plunger switch **22** and de-energize the circuit.

From the foregoing, it will be seen that this invention is one well adapted to attain all of the ends and objects hereinabove set forth together with other advantages which are obvious and which are inherent to the structure.

It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations.

As many possible embodiments may be made of the invention without departing from the scope thereof, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim:

1. In a foot massager, the combination of

a foot rest member, said foot rest member formed as a housing with a base and a top surface for engagement by the sole of the foot,

an electrically powered vibrator assembly mounted inside said housing and operable to create vibration of said top surface,

a floor contacting member mounted to the base of said foot rest member and supporting said foot rest member with at least a portion of said base spaced from the floor while another portion of the base contacts the floor, and

electric switch means carried by said foot rest member and having a switch operating member for engagement with the floor on depression of said first portion of said base toward the floor and operable thereby to energize said vibrator assembly.

2. The combiation as in claim **1,**

said base of said housing forming a bottom closure for the housing,

said floor contacting member comprising a leaf spring having one end secured to said base member with the other ends spaced from said base member and providing surfaces for floor contact.

3. The combination as in claim **1,** in which said switch means is a plunger-type switch, said plunger comprising the operating member.

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