ABSTRACT: A foot reflex and relaxing machine for use in accordance with theories and underlying principles having to do with reflexology and zone therapy. It comprises a casing having self-contained facilities which break down crystalline deposits in the vital nerve endings. A cushioned ventilated motor is clamped in the casing and removable with the bottom wall. The motor operates a shaft whose upper end actuates an applicator operating through a clearance hole in the corrugated top wall. The pointed but blunt upper end allows the user's foot to "float" thereon in a manner to act on selected nerve endings. The speed of the applicator is controllable by a manually regulable switch.
FOOT REFLEX RELAXER

This invention relates to foot massaging and relaxing appliances and, more particularly, to an innovation which lends itself to practical use in accordance with currently recognized theories and underlying principles of reflexology and zone therapy, and has to do with an adaptation which is unique in that it is characterized by means wherein, when properly utilized, breaks down harmful crystalline deposits existing in predetermined systematically charted nerve endings.

Briefly, the device is expressly designed for compression message wherein a controllably regulable applicator can be coordinated with diversified but recognizable areas and reflexes in a treatable human foot and which is such in design and capability that it activates and promotes the circulation of blood and restoration to an acceptable state of normalcy to the affected part or parts. It is mechanical and electrical in construction. A lightweight rectangular hollow casing provides a housing. This casing is provided with top, bottom, side and end walls. The bottom wall is applicable and removable and supports a detachably clamped prime mover, for example a known type electric motor, and the bottom wall and motor can be removed for inspection and repair. The top wall provides a footrest and has an applicator accommodating hole therein. The motor is located to properly position an upstanding driven reciprocable shaft. The shaft has an upper end which is cooperatively aligned with the hole and is provided with an appropriately molded rubber or equivalent applicator.

The applicator is operatively mounted on the upper end and has a carefully constructed reciprocating tip portion which passes upwardly through and beyond the hole in a manner to abut and act on the nerve endings. The top wall is corrugated to provide antislipping ribs and a suitably convenient footrest. With this construction the foot of the user can be perched atop the tip of the applicator in a manner to float and to promote and restore beneficial circulation of blood not only in the foot itself but in the parts of the circulatory system of the body which are tied in with the nerve endings.

As will be hereinafter more fully appreciated, informed and experienced use of this invention stimulates circulation throughout the user's body. Harmful crystalline deposits on the vital nerve endings in the feet are broken up thereby maintaining the natural muscular action of each associated organ. The facilities provided function to relieve tired and aching feet and body and, in addition, relieve tension and fatigue.

Many and varying and structural and functionally differing types of foot appliances have been devised and offered for use and are primarily employed for the purpose of exercising and vibrating the foot for increased blood circulation and stimulation in general. It will be noted in this connection that the majority of prior art foot exercising and vibrating appliances depend upon vibratory motion and mild vibrational results. The instant invention is possessed of the desired potential power and coordinating facilities that, as experience has shown, have been found to be best usable and adapted in keeping with the principles of reflexology and zone therapy.

Also as will be hereinafter more fully appreciated the appliance embodies and satisfactorily utilizes a five-eight inch stroke motor which has been found to be critical to the efficacy of treatment and results sought. A vertical reciprocating shaft is driven from the motor shaft. Both the density and blunt pointed shape of the rubber applicator are critical in that they fulfill the purposes of penetration directly and deeply into the nerve endings as distinguished from the muscles or veins of the treated foot.

Another feature of the concept resides in the appropriation of a structural adaptation which is distinct and different in the method of starting the procedure and maintaining the operational steps. This is to say the user can control the speed of the applicator-equipped driven shaft by way of a remote control switch which the user in a sitting position holds in his lap while using the same.

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:

FIG. 1 is a view in perspective of a portable foot reflex massaging and relaxing machine or device which is expressly designed and adapted to break down harmful crystalline deposits in the vital nerve endings of the treated foot and which includes the cord with plug and manually regulable speed controlling switch.

FIG. 2 is an enlarged view taken approximately on the plane of the section line 2—2 of FIG. 1 looking in the direction of the arrows and with parts in section and elevation.

And FIG. 3 is a transverse section taken approximately on the plane of the vertical section line 3—3 of FIG. 2.

The fiber glass boxlike casing is denoted by the numeral 6. This case is characterized by a slightly inclined top wall 8, a pair of depending longitudinal sidewalls 10, and intervening and connecting transverse front and rear end walls 12 and 14.

The substantially flat horizontal bottom wall 16 is of shallow panlike form and provided with marginal flanges 18 which are fitted telescoping within the open bottom of the casing and are removably bolted or otherwise secured in place as at 20. This bottom wall is provided at its respective corner portions with suitably shaped feet 22 which serve to slightly elevate the wall so that an air intake port or vent 24 (FIG. 2) is positioned for intake and circulation purposes. An appropriate filter 26 is mounted on the interior of the bottom wall and spans the intake vent 24. The top wall is corrugated to provide a plurality of lengthwise ribs 28 which facilitates support of the foot when the same is in use as suggested in phantom lines of FIG. 2. The median central forward portion of this corrugated or ribbed top wall is provided with a relatively small circular hole 30 which functions to accommodate a reciprocable applicator 32 in the manner best shown in FIG. 2. This applicator is fixed on and operable by a vertically disposed and merely enclosed reciprocating shaft 34 (FIG. 2). To the ends desired the applicator is molded from a carefully selected grade of rubber which has the desired density and flexible and resilient properties. The lower cylindrical base portion 36 is anchored atop an enlarged or headed upper end 38 on the shaft. The upper body and upper end portion is of tapered or truncated conical form as at 40 and projects through and beyond the hole 30 where it terminates in a pointed but convexly rounded tip 42.

The shaft 34 is operatively connected by actuating cam means (not detailed) carried by and constituting a component part of the electric motor or prime mover 44. Cushioning blocks 46 of requisite resiliency are interposed between the base of the motor and the underlying plate or wall 16. A similar cushioning block is provided at 48 and is interposed between the underneath side of the top wall and the positioning and clamping means detailed in FIGS. 2 and 3. This means comprises a substantially U-shaped or an equivalent semicircular strap which constitutes a positioning and holddown saddle which is denoted at 50. The depending legs or arms of the saddle are denoted at 52 and have outstanding laterally directed lower ends 54 which are anchored in place by nut-equipped bolts 56. As shown in FIG. 3 the numeral 58 designates a compressibly resilient packing element which is interposed between the clamp and the case of the motor 44. An assembling and tightening bolt is provided as at 60 in FIG. 3. It will be further noted that the aforementioned arcuate cushion 48 is interposed between the right portion of the clamp and the overlying top wall 8.

The rear end wall 14 is provided with a rubber or an equivalent bushing 60 to accommodate a coacting portion of the supply cord 62. This cord is provided at its free end with a prong-equipped plug 64. The coacting end portions 66 and 68 are connected with a button-equipped speed controlling switch 70, the button being denoted at 72. This cord means is electrically connected with the motor in the manner shown in FIG. 2.

For most effective use it is recommended that the user be seated on a chair of normal height. Next, insert the speed con-
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3. A portable foot reflex massaging and relaxing appliance designed and adapted to break down harmful crystalline deposits in vital nerve endings of the human foot comprising a hollow casing, the hollow portion of said casing providing a protective and enclosing housing, said casing having a corrugated top wall with an applicator hole therein, and underlying traylike bottom wall, and interconnecting longitudinal side and end walls, said bottom wall being removably and marginally joined to the side and end walls, an electric motor having a bottom portion resiliently seated on an interior surface of said bottom wall and thus cushioned against undue and noisy vibrations, said bottom wall being provided at corner portions thereof with surface contacting, supporting and elevating feet, said bottom wall also having a filter-covered air inlet, clamping means detachably connecting said motor to said bottom wall, a vertical shaft operatively connected with said motor and adapted for reciprocation and in line with said hole, an applicator having a lower end secured atop said shaft and an upper end extending through said hole, an electric cord connected to and for operating said motor, said cord being provided at one end with a plug and intermediate its ends with controllable switch means to regulate the speed of reciprocation of said shaft.

4. The structure defined in and according to claim 1 and wherein said clamping means comprises a motor embracing strap which is saddled over the motor and is provided at lower ends with laterally directed terminal portions bolted to said bottom wall.

5. The structure defined in and according to claim 1 and wherein said clamping means comprises a motor embracing strap which is saddled over the motor and is provided at lower ends with laterally directed terminal portions bolted to said bottom wall, resilient packing means interposed between the motor and leg portions of said strap and a cushioning pad interposed between the bight portion of the clamp and an underneatly overlying surface of said top wall.

6. The appliance defined in and according to claim 3 and wherein said applicator comprises a vertically elongated member of bendably resilient firm-textured rubber, said applicator having an upper truncated conical portion projecting up through and beyond said hole and terminating in a convex tip atop which the sole of the foot is supported and allowed to "float" when in use.

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