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2,521,874

VIBRATORY FOOT MASSAGE DEVICE

Filed Dec. 3, 1948

2 Sheets-Sheet 1

Fig. 1.

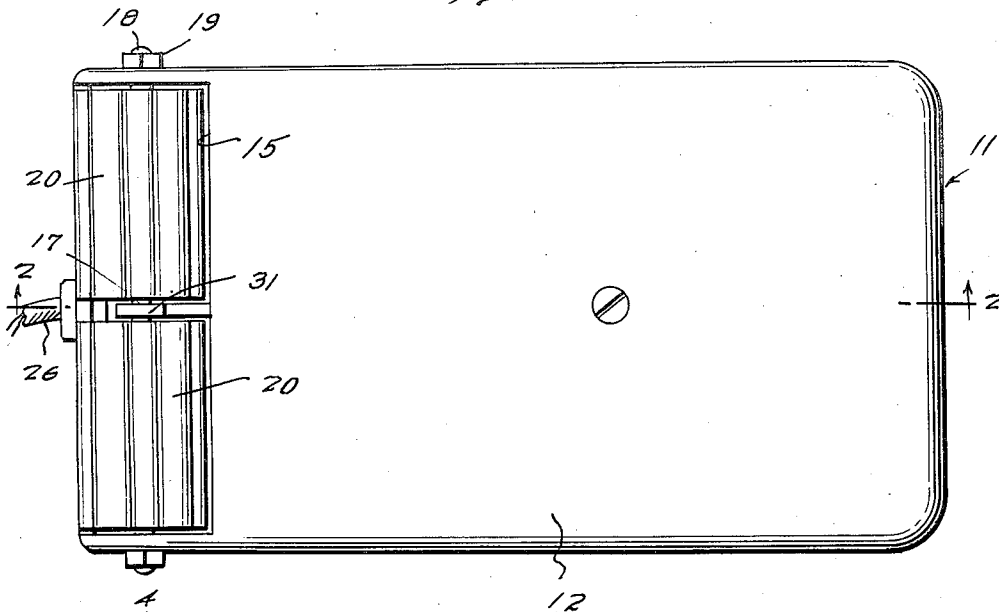


Fig. 2.

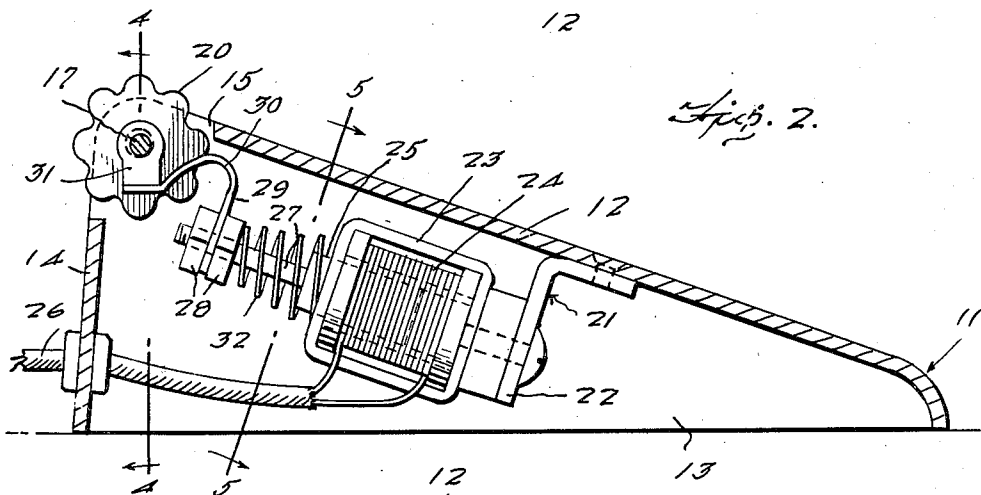
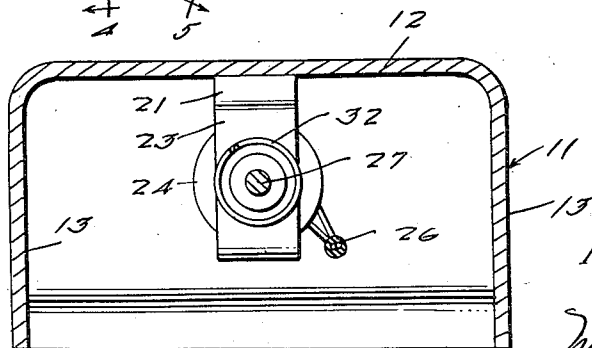


Fig. 3.



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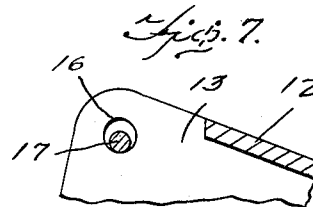
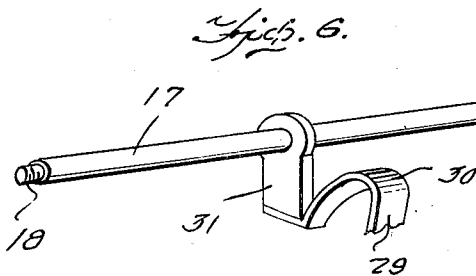
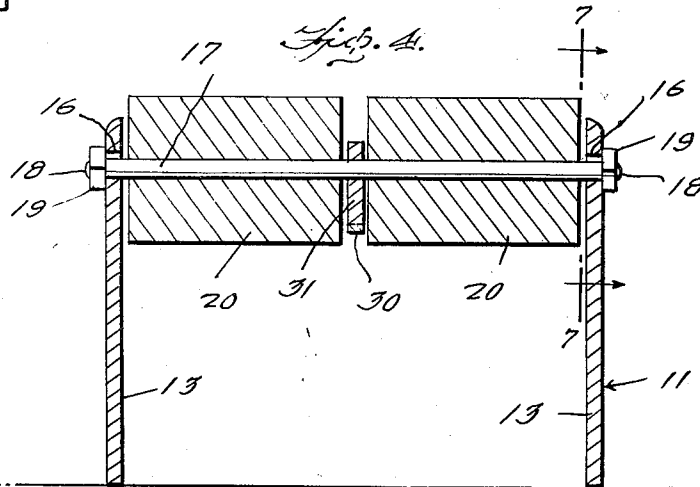
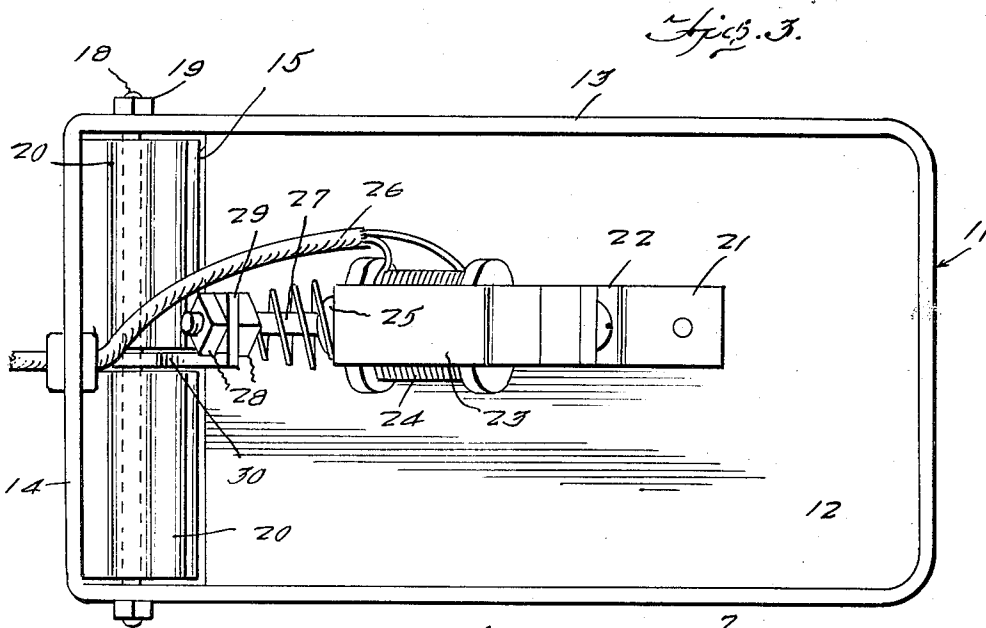
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2 Sheets-Sheet 2



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VIBRATORY FOOT MASSAGE DEVICE

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5 Claims. (Cl. 128-49)

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This invention relates to mechanical massaging devices, and more particularly to an electrically-driven device for massaging the feet.

A main object of the invention is to provide a novel and improved foot massaging device which is simple in construction, compact in size, and which provides an effective, stimulating and refreshing massage action for the feet, relaxing the foot muscles, relieving foot fatigue and improving blood circulation.

A further object of the invention is to provide an improved electrically-driven vibratory massage device for the feet which is inexpensive to manufacture, light in weight, sturdy in construction and easy to use.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a top plan view of an improved electrically-driven foot massage device constructed in accordance with the present invention.

Figure 2 is a longitudinal cross-sectional view taken on line 2-2 of Figure 1.

Figure 3 is a bottom plan view of the foot massage device of Figure 1.

Figure 4 is a vertical transverse cross-sectional view taken on line 4-4 of Figure 2.

Figure 5 is a cross-sectional view taken on line 5-5 of Figure 2.

Figure 6 is an enlarged fragmentary perspective detail view of the roller shaft and vibrator connecting means therefor, as employed in the massage device of Figure 1.

Figure 7 is a fragmentary cross-sectional detail view taken on line 7-7 of Figure 4.

Referring to the drawings, 11 designates a housing made of any suitable material such as metal, plastic, wood, or the like, having the inclined top wall 12 and the depending side walls 13, 13 and end wall 14, defining an enclosure. The rear top corner portion of the housing 11 is cut away, as shown at 15, to define an opening extending transversely across the housing between the top corner portions of the side walls 13, 13. Said top corner portions of the side walls are formed with opposing apertures 16, and loosely positioned in said apertures is a transverse shaft 17 provided with reduced end portions 18, 18 on which are threaded the nuts 19, 19 which hold the shaft 17 against endwise movement. Rotatably mounted on shaft 17 are the spaced longitudinally corrugated rollers 20, 20 said rollers being relatively large in diameter so that they project above the plane of top wall 12, as shown in Figures 2 and 4.

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Secured to the underside of top wall 12 is an angle bracket 21 to whose depending arm 22 is secured the core structure 23 of a vibrator unit, the coil of said unit being shown at 24. The vibrator unit is provided with a plunger 25 reciprocally mounted in the core structure for movement parallel to top wall 12 responsive to the energization of coil 24 by alternating current. Connected to coil 24 is the line cord 26. Plunger 25 has a reduced extension 27, and clamped to the end of said extension between nuts 28, 28 threaded thereon is an arm 29. As shown in Figures 2 and 6, arm 29 has a forwardly bent resilient top portion 30 which is secured at its end to an arm 31 rotatably secured to shaft 17 between the rollers 20, 20 projecting downwardly from said shaft. A coiled spring 32 encircles extension 27 and bears between the forward nut 28 and the core structure 23, biasing the plunger 25 outwardly with respect to said core structure.

When coil 24 is energized by alternating current, plunger 25 reciprocates longitudinally and causes shaft 17 to vibrate back and forth in the enlarged openings 16, 16 in which it is supported. The movement of the rollers 20, 20 thus produced corresponds to the movement of the shaft 17, said rollers being somewhat cushioned by the resiliency of the connecting portion 30 between arms 29 and 31. The person using the device places his foot against the corrugated rollers 20, 20 and moves his foot back and forth over the rotatably mounted rollers. The massaging action provided by the oscillating and vibrating rollers relieves muscular fatigue in the foot, improves blood circulation, and exercises the joints of the foot. The user may employ the device either in a standing, sitting or reclining position. The device provides a combination of massaging, kneading, vibration, and oscillation of the portions of the foot applied to the rollers 20, 20.

Since the corrugated rollers 20, 20 are rotatable on the shaft 17, the user may employ the device to massage his feet even with the coil 24 deenergized, by moving the foot being massaged back and forth over the rollers.

While a specific embodiment of a vibratory foot massaging device has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. A foot massaging device of the character described comprising a housing having an inclined

top wall formed with a transverse opening, a corrugated roller movably secured in said housing and projecting through said opening, an electromagnetic vibrator unit secured within said housing and having a reciprocatory element, and yieldable means connecting said element to said roller.

2. A foot massaging device of the character described comprising a housing having an inclined top wall formed with a transverse opening, a shaft loosely mounted in the side walls of the housing adjacent said opening, a corrugated roller carried on said shaft and projecting through said opening, an arm secured to said shaft, an electromagnetic vibrator unit secured within said housing and having a reciprocatory element, and a resilient member connected at one end to said arm and at the other end to said reciprocatory element.

3. A foot massaging device of the character described comprising a housing having an inclined top wall formed at its upper end portion with a transverse opening, a transverse shaft loosely mounted in the side walls of the housing subadjacent said opening, a pair of spaced corrugated rollers carried on said shaft and projecting through said opening, an arm secured to the intermediate portion of the shaft between the rollers and extending downwardly therefrom, an electromagnetic vibrator unit secured within the housing and having a reciprocatory plunger extending parallel to said top wall, and a spring bar connected at one end to the end of said arm and connected at its other end to said reciprocatory plunger.

4. A foot massaging device of the character described comprising a support, a shaft loosely mounted in said support, a corrugated roller carried on said shaft and projecting above said support, an arm secured to said shaft, an electromagnetic vibrator unit mounted in said support and having a reciprocatory element, and yieldable means connecting said element to said roller.

5. A foot massaging device of the character described comprising a support, a shaft loosely mounted in said support, a corrugated roller carried on said shaft and projecting above said support, an arm secured to said shaft, an electromagnetic vibrator unit mounted in said support and having a reciprocatory element, and a resilient member connected at one end to said arm and at the other end to said reciprocatory element.

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