Jan. 6, 1953 C. J. MILLER 2,624,335

VIBRATORY MASSAGE DEVICE

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Fig. 1.

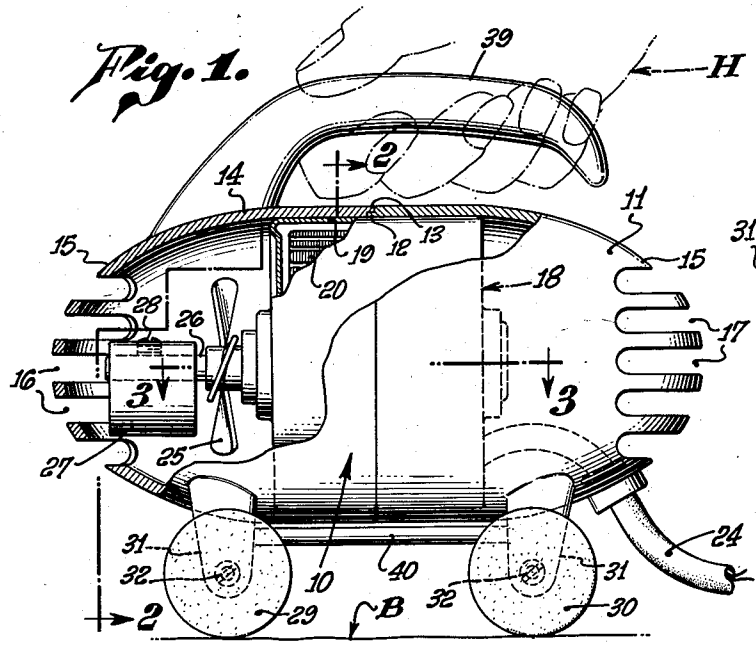


Fig. 4.

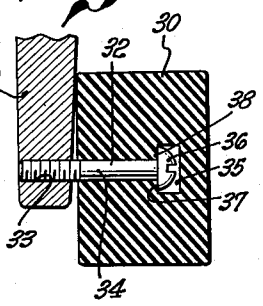


Fig. 2.

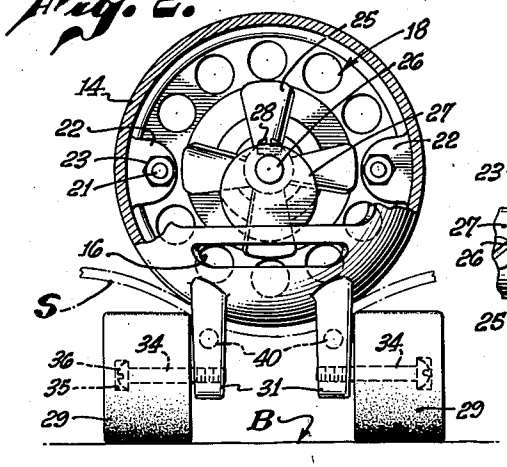


Fig. 3.

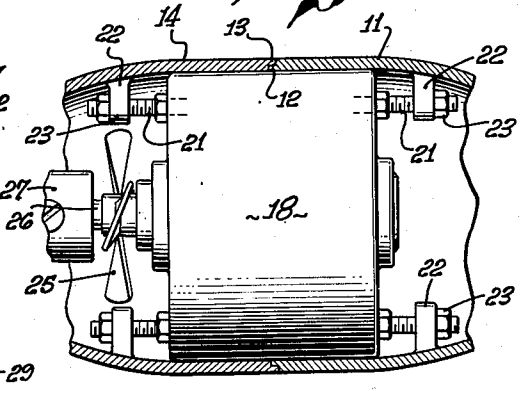
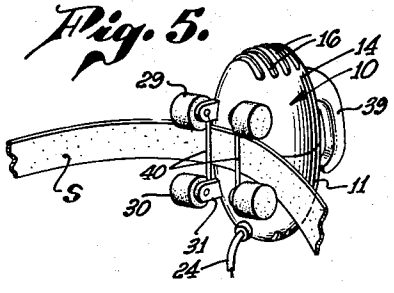


Fig. 5.



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VIBRATORY MASSAGE DEVICE

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4 Claims. (Cl. 128—36)

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The present invention relates to massaging devices, and more particularly to devices that perform a massaging action by vibration.

An object of the present invention is to provide an improved vibratory massage device that can be moved readily over any desired portion of a person's body.

Another object of the invention is to provide a vibratory massage device that can be applied and moved easily by a person over relatively inaccessible parts of such person's body.

A further object of the invention is to provide a vibratory massage device embodying rubber, or rubber-like, rollers applicable to a person's body to transmit vibrations thereto, and also to facilitate movement of the device along the person's body.

Yet another object of the invention is to provide a vibratory massage device embodying rubber, or rubber-like, rollers applicable to a person's body to transmit vibrations thereto, in which the rollers are arranged in such manner as to enable the device to be moved in a stable fashion and appropriately guided along the desired portions of the body, without the necessity for directly holding the device in the hand.

This invention possesses many other advantages, and has other objects which may be made more clearly apparent from a consideration of a form in which it may be embodied. This form is shown in the drawings accompanying and forming part of the present specification. It will now be described in detail, for the purpose of illustrating the general principles of the invention; but it is to be understood that such detailed description is not to be taken in a limiting sense, since the scope of the invention is best defined by the appended claims.

Referring to the drawings:

Figure 1 is a side elevation, with parts shown in section, of a vibratory massage device;

Fig. 2 is an elevational and sectional view taken generally along the line 2—2 on Fig. 1;

Fig. 3 is a partial longitudinal section taken along the line 3—3 on Fig. 1;

Fig. 4 is an enlarged transverse section through one of the rubber rollers and the roller support;

Fig. 5 is an isometric projection, on a greatly reduced scale, of the device disclosed in Fig. 1, illustrating one mode of use with the device in a generally vertical position.

The apparatus disclosed in the drawings is a vibrating device for mechanically massaging a person's body, in order to sooth and relax the body parts to which the device may be applied.

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It includes an outer housing or casing 10, consisting of a rearward portion 11 having a male pin end 12 piloted within a companion female box 13 on a forward part 14. The ends 15 of the forward and rearward portions 14, 11 are preferably formed in convex or arch shaped fashion, and contain air inlet and outlet openings 16, 17 for the purpose of cooling an electric motor 18 secured within the housing 10.

The electric motor 18, which can be of any desired or conventional type, includes a stator frame 19 in which the rotor 20 is suitably rotatably mounted. Studs 21 extend longitudinally from the frame 19 and project through brackets 22 extending inwardly from the forward and rearward housing portions 14, 11, nuts 23 being threaded on the studs 21 and bearing against the brackets 22 for the purpose of appropriately supporting the motor 18 in the housing 10, and also to secure the housing portions 11, 14 to one another, producing a functionally unitary whole.

Current is supplied to the motor 18 through suitable wiring 24 leading into the lower part of the rearward housing portion 11. When the rotor 20 rotates, a fan 25 secured to the motor shaft 26 will draw air through the inlet openings 16 and force it through the motor 18 and out through the rear outlet openings 17, thereby cooling and maintaining the apparatus in a cool condition.

The entire apparatus is mechanically vibrated by an eccentric or unbalanced weight 27 mounted on the forward end of the motor shaft 26 and suitably secured thereto, as through use of a set screw 28 threaded into the weight and bearing against the motor shaft. It is evident that during rotation of the motor, the revolving eccentric weight 27 produces a mechanical vibration of the entire apparatus, including the outer housing or casing 10.

The vibrations imparted to the housing 10 are transmitted to a plurality of rollers 29, 30, which are preferably made of relatively soft rubber, or rubber-like, material. As disclosed, a pair of aligned front rollers 29 are carried by the forward portion 14 of the housing; while a pair of aligned rear rollers 30 are carried by the rearward portion 11 of the housing. The front rollers 29 are laterally separated or spaced from one another, and are preferably in longitudinal alignment with the rear rollers 30, which are also laterally spaced from one another.

Each roller 29, 30 is supported from its housing portion by a depending supporting leg or bracket

31 suitably secured to the housing 10. An axle 32, which may be in the form of a threaded member, is attached to each bracket 31, as by threading it into a companion threaded hole 33 in the bracket. The axle extends through a bore 34 in the roller, which merges into an enlarged bore portion 35 capable of receiving the outer head 36 of the axle. This head bears upon the inner shoulder 37 of the enlarged bore of the roller, to prevent inadvertent and outward endwise removal of the roller 29 or 30 from the axle 32. In rotatably assembling the roller to the bracket 31, the axle 32 is first threaded into the hole 33 and the rubber roller 29 or 30 then forced over the head 36 of the axle until the latter is received within the enlarged roller bore 35, as disclosed in Fig. 4. Each roller is of relatively soft material, which will allow the rubber roller to be stretched over the axle head 36, in order to position the roller in appropriate rolling relation upon the axle. However, any attempts to shift the roller outwardly will be resisted by engagement of the roller shoulder 37 with the inner surface 38 of the head 36.

Each roller 29, 30 is capable of rotating freely upon its companion axle 32. Inasmuch as there are four rollers provided, the apparatus can be rolled very readily along a person's body B. To facilitate such rolling, a generally L-shaped handle 39 is secured to the forward portion 14 of the housing 10, extending rearwardly therefrom, as shown most clearly in Fig. 1. This handle can be grasped by a person's hand H and the rollers 29, 30 of the device applied to the portion or portions of the person's body B to which a vibratory massaging effect is to be imparted. When current is supplied to the electric motor 18, the shaft 26 is rotated, which correspondingly revolves the unbalanced or eccentric weight 27, causing the casing 10 to vibrate, which vibration is transmitted through the brackets 31 and axles 32 to all of the rubber rollers 29, 30. These rollers, in turn, transmit the vibratory motions to the portions of the person's body B with which they engage. During such vibration of the rollers 29, 30, the person can easily move the device along the person's body, because of the freedom of rotation that the rollers have upon their respective axles 32. During such rotation, the rollers 29, 30 are being constantly vibrated, which enables a massaging action to be imparted to the person's body continually while the device is being moved therealong. It is unnecessary to remove the device from one portion of the person's body and then reapply it to the same or another portion.

The arrangement of the rollers 29, 30 provides four spaced locations of simultaneous contact between the device and the person's body B, insuring a stable contacting relation with the body, and requiring the person merely to move the device with very little effort. It is unnecesasry for the person to actually hold the device in a particular manner; so as to insure its appropriate application to the body. The fact that the rollers 29, 30 contact the body at spaced points is sufficient in and of itself to insure the proper relationship of the vibratory device to the person's body.

Although the handle 39 is provided to enable the device to be grasped by the hand H for application to the person's body B, the roller arrangement enables the device to be applied by a person to relatively inaccessible portions of his or her body. Thus, spaced generally parallel bars 40 may extend between and be suitably secured to the front and rear brackets 31 at each

side of the device, these bars being disposed adjacent the exterior of the outer housing 10, to provide sufficient space for the passage of a relatively wide strap or band S between the bars 40 and the housing 10. This strap or band S can be of sufficient length (say several feet) to enable the person to grasp it in both hands and move the device on its rubber rollers 29, 30 along the person's body. As an example, the rollers may be applied to a person's back, which may be disposed in a relatively erect or generally vertical position. The person grasps the ends of the strap S in front of his body and, by moving the strap up and down, can cause the vibrating device to correspondingly roll up and down the back, the vibrations due to the unbalanced weight 27 being transmitted to the rubber rollers 29, 30 and imparted therethrough to the various regions of the back along which the device is rolled. The engagement of the strap S with the bars 40 insures the proper contacting relation of the rollers against the person's back, or other portion of the body; whereas the side edges of the strap are engageable with the forward and rearward brackets 31, to insure the appropriate longitudinal movement of the device along the person's body.

It is, accordingly, apparent that a vibratory massage device has been provided which is movable readily over a person's body while the vibrations are being transmitted thereto. The apparatus lends itself readily to holding directly in the hand, as by grasping the handle H, or it can be manipulated indirectly, as by use of the strap S extending between the bars 40 and the vibratory housing 10.

The inventor claims:

1. In a massage device: a housing; means in said housing rotatable about a longitudinal axis for vibrating said housing; a pair of spaced brackets depending from the forward portion of said housing; a pair of spaced brackets depending from the rearward portion of said housing; the brackets of each pair being disposed on opposite sides of a vertical plane including the longitudinal axis of said vibrating means; an axle secured to each bracket and extending laterally outward therefrom substantially at right angles to the longitudinal axis of said vibrating means; and a pliant, elastic roller rotatable on each axle; each axle having an outer head thereon disposed within an enlarged bore in its companion roller to retain said roller on said axle.

2. In a massage device: a housing; a pair of spaced pliant, elastic rollers rotatably carried by the forward portion of said housing; a pair of spaced pliant, elastic rollers rotatably carried by the rearward portion of said housing; the rollers of each pair being coaxial of each other and being disposed on opposite sides of a central longitudinal vertical plane through said housing; means carried by said housing for vibrating said rollers; and spaced members secured to said housing to enable a strap to be disposed between said housing and members for the purpose of moving said rollers along a person's body.

3. In a massage device: a housing; means in said housing rotatable about a longitudinal axis for vibrating said housing; a pair of spaced brackets depending from the forward portion of said housing; a pair of spaced brackets depending from the rearward portion of said housing; the brackets of each pair being disposed on opposite sides of a vertical plane including the longitudinal axis of said vibrating means; a pliant, elastic roller rotatably carried by each of said

brackets; the axes of said rollers being substantially normal to the longitudinal axis of said vibrating means; and a bar extending between and secured to each forward and rearward bracket; said bars being spaced from said housing to enable a strap to be placed between said bars and housing for moving said housing and rollers along a person's body.

4. In a massage device: an elongate housing; a plurality of spaced brackets depending from said housing; a plurality of pliant, elastic rollers rotatably carried by said brackets, said rollers being rotatable about axes generally parallel to one another; means rotatable within said housing for vibrating said housing, brackets and rollers; and means on and spaced below said housing for receiving a strap extending transversely of the longitudinal axis of said housing

for moving said housing and rollers along a person's body.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
852,163	Buchanan	Apr. 30, 1907
1,663,975	David	Mar. 27, 1928
1,958,936	Bajette et al.	May 15, 1934

FOREIGN PATENTS

Number	Country	Date
370,629	Great Britain	Apr. 14, 1932