Jan. 5, 1943. W. L. WETTLAUFER 2,307,554

THERAPEUTIC VIBRATOR AND MASSAGE DEVICE

Filed May 31, 1940

Fig. 1

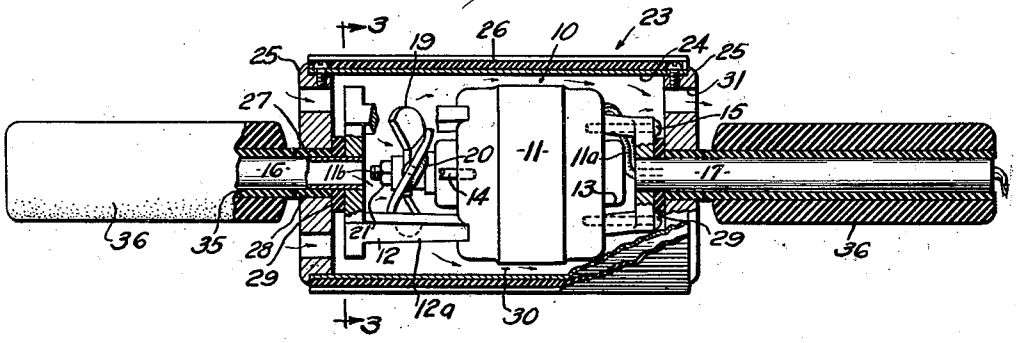


Fig. 2

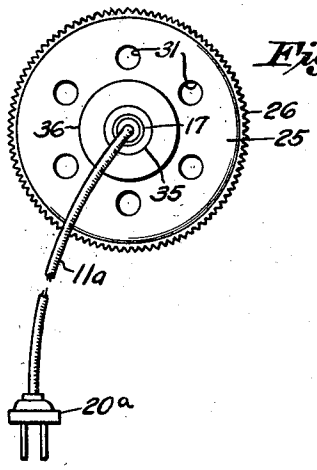
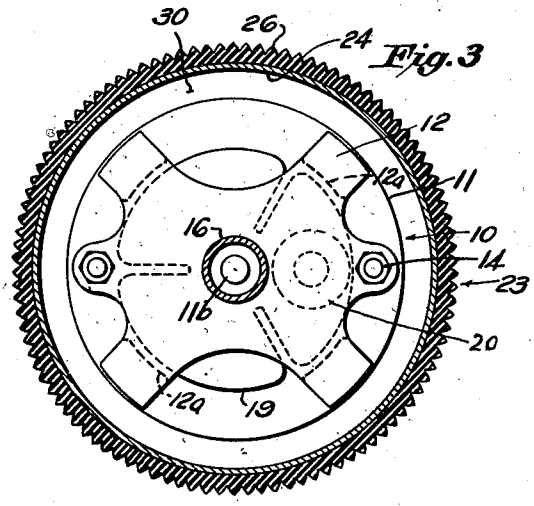


Fig. 3



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THERAPEUTIC VIBRATOR AND MASSAGE DEVICE

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2 Claims. (Cl. 128—36)

This invention relates to a therapeutic device which may be used for combined massage and vibratory treatments.

The invention is directed to a roller massage device in which is incorporated a novel structure for a motor-driven vibratory element, wherein the handles and roller body, although carried by the vibratory element, are separated therefrom by vibration dampening devices. As a result, the intensity of the vibratory treatment may be varied at the will of the operator by the application of more or less manual pressure to the handles of the structure.

The invention is further devised with a view to economy in production, and effectiveness and quietness of operation, as will be more apparent from a perusal of the specification and drawing, wherein:

Fig. 1 is a longitudinal section through the outer portions of the device;

Fig. 2 is an end view thereof;

Fig. 3 is an enlarged section on the line 3—3 of Fig. 1.

The device consists of a frame or enclosed vibratory unit 10 which includes an electric motor 11 having end brackets 12 and 13 secured to the motor by screws 14 and 15, respectively. The brackets may be integral or welded to the motor. Tubes 16 and 17 are rigidly secured to the brackets 12 and 13, and such tubes are disposed in axial alignment with the motor axis. The motor shaft 11*b* carries a fan 19 which is affixed thereto by a nut 21. It will be understood that the motor casing brackets 12 and 13 and tubes 16 and 17 are intended to form a rigid unit, and therefore such parts may be an integral unit or formed and assembled in other manners.

One of the fan blades has a weight 20 secured thereto to provide for a condition of dynamic unbalance when the motor is running, in which event the entire frame structure will be vibrated at a high frequency.

A housing 23 encloses the motor 11 and brackets 12 and 13, and it also serves as a roller massage element, as will presently be understood. This element consists of a metallic cylinder 24 capped at both ends by end plates 25 and having a covering 26 of ribbed soft rubber. The plates 25 contain axial holes 27 for receiving short gum rubber bushings 28. The bushings in turn receive the tubes 16 and 17 to provide a radial connection between the housing 23 and vibratory unit 10. Rubber or cork washers 29 are interposed between the brackets 12 and 13, and the plates 25, to provide axial or thrust connections. It will be observed that the bushings 28 and washers 29 may be made of a non-resilient bearing material when rotation of the housing relative to the vibratory element is desired.

The plates 25 are formed with a plurality of other holes 31, which provide air inlet and outlet passages. It will be observed that an annular air gap 30 is provided between the motor 11 and the cylinder 24. This provides for the passage of air, induced by the fan 19, from left to right, with a cooling effect on the motor, and the continuous discharge of the air through the right hand plate 25. The bracket 12 is formed with legs 12*a* which straddle the fan 19 in order to permit the free passage of air to and from the fan.

The connecting wires 11*a* for the motor 11 are extended through the right hand tube 17, and they may terminate in a suitable pronged electrical fixture 20*a*.

The projecting tubes 16 and 17 are covered with rubber sleeves 35 and superimposed sponge rubber sleeves 36, which assembly forms a pair of vibration insulated handles with the tubes serving as a structural base.

The device is capable of being used in several manners. For example, it may be used as a massage roller by gripping the handles lightly enough to permit slippage, and rolling the housing 23 over parts of the body requiring treatment. In this instance, the reaction of the vibratory unit 10 will be transmitted to the housing 23 with little dampening effect, while the hands will be shielded to a considerable extent by the sponge rubber covering of the handles. When therapeutic treatment of the hands is desired, the handles may be gripped forcibly, thus compressing the rubber and causing the transmission of strong vibratory impulses through the handle portions. It will also be apparent that only the left hand handle may be gripped, while the right hand handle may be used for face, neck or scalp massage with a degree of severity determined by the pressure applied to the treated portions.

It will be noted that the device may be operated with entire freedom from mechanical noises, since the relatively movable parts thereof are shielded by interposed rubber members.

While I have disclosed my invention with reference to one specific embodiment thereof, it will of course be understood that the invention is susceptible of numerous modifications and variations without departure from its principles, as shown by the scope of the following claims.

I claim:

1. A therapeutic vibrator comprising a hollow cylindrical body member adapted to be externally covered with resilient material, end plates for the body member having centrally disposed and aligned apertures, said end plates being connected to said body member, an electric motor disposed within the body member in spaced relation to the inner wall thereof, bracket portions mounted on each end of the motor, a dynamically unbalanced fan rotatably mounted within the body member on the shaft of said motor, handle members extending through the apertures in the end plates, the inner ends of said handle members being secured to said brackets, resilient bushings interposed in said apertures to engage the portions of the handle members passing therethrough, and resilient coverings for the exposed portions of said handle members.

2. A therapeutic vibrator comprising a hollow cylindrical sleeve adapted to be covered with resilient material, end plates positioned at each end of the sleeve and connected thereto, said plates being formed with aligned central apertures, a motor disposed within the sleeve in spaced relation to the wall thereof, said motor having a shaft also spaced from said wall, a dynamically unbalanced weight mounted on the shaft for rotation therewith, said weight being freely spaced from the wall, brackets secured to the motor at each end, one of said brackets straddling said shaft and weight, handle members extending through the apertures in said end plates into the sleeve and being connected to said brackets, a resilient covering on each handle, said resilient covering engaging the wall of the apertures to connect the sleeve to the motor and handles, and to effect the transmission of the vibratory forces generated by excitation of the motor.

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