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S. M. HEIDE

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VIBRATORY APPARATUS

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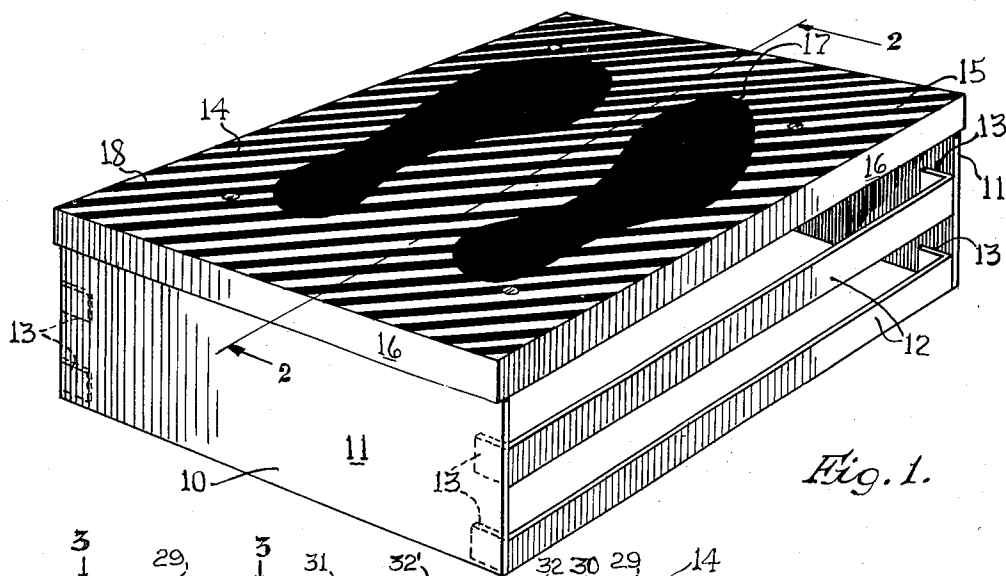


Fig. 1.

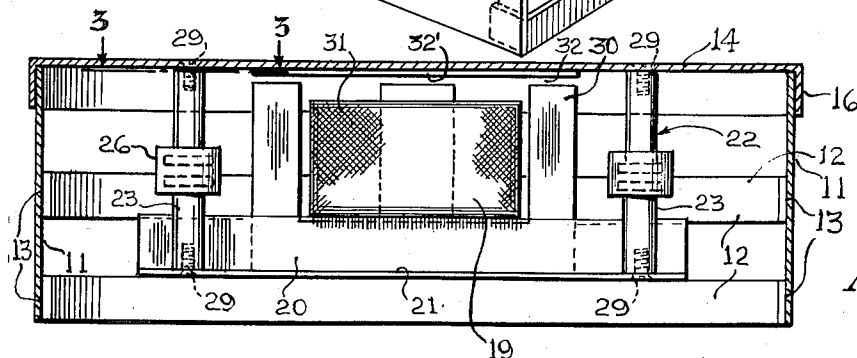


Fig. 2.

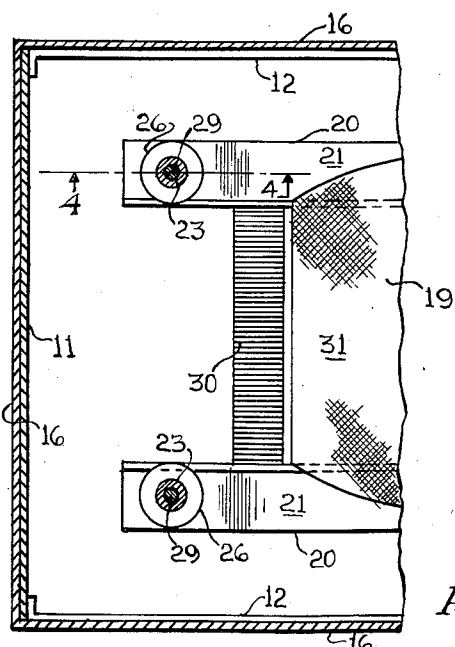


Fig. 3.

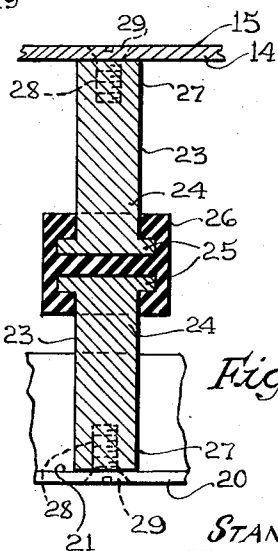


Fig. 4.

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VIBRATORY APPARATUS

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4 Claims. (Cl. 128—33)

This invention relates to certain new and useful improvements in a vibratory apparatus and more particularly to a kinesitherapy apparatus and has as its principal object the provision of a device of this character in which there is provided a vibrating platform upon which one may stand while receiving the benefits resulting from the vibration of the platform, together with means for effectively influencing vibration of such platform.

Another and equally important object of the invention is to provide a vibratory apparatus which is simple in construction, relatively quiet in operation, and requires a relatively small but effective vibratory motor for providing adequate energy to vibrate the platform vigorously regardless of the weight of the person imposed thereon.

Another and equally important object of the invention is in the simplified construction for suspending the vibrator from and beneath a vibratory platform on which the person stands, while receiving the benefit of the operation of the device.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings showing the preferred form of construction, and in which:

Fig. 1 is a perspective view of the preferred form of my vibratory apparatus;

Fig. 2 is a sectional detail view taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a fragmentary sectional detail view taken substantially on line 3—3 of Fig. 2;

Fig. 4 is a fragmentary sectional detail view taken substantially on line 4—4 of Fig. 3.

Referring more particularly to the drawings, in which the preferred form of construction of my invention is disclosed, my improved vibratory apparatus preferably includes a base portion 10 comprising end walls 11 and side walls formed of parallelly extending spaced apart metal strips 12 secured by spot welding or the like as at 13 to the adjacent walls of the end walls 11. Upon this base 10 is mounted a platform 14 which comprises a top surface 15 and depending flanges 16 which overlap and are secured to adjacent portions of the end walls 11. This platform 14 may have formed therein in any suitable manner simulated footprints 17 to designate the position of the feet when a person stands upon the platform. The remaining surface of the platform may be knurled or otherwise roughened as at 18 to provide a gripping surface to prevent a person mounting the platform from slipping until the feet of such person have been properly positioned upon the simulated footprints 17.

Arranged within the base portion 10 in close proximity with respect to the platform 14 is a vibrator 19. Secured to opposite corresponding sides of the vibrator 19 in parallel relation with respect to each other are supporting bars 20, preferably though not necessarily in the form

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of angle irons, with their horizontal flanges 21 extending outwardly away from the vibrator 19. The vibrator 19 is supported from the platform 14 by a suspension structure generally indicated at 22. This suspension structure includes in the present form of construction four suspension rods 23. Each suspension rod 23 comprises substantially rigid end portions 24 arranged in alignment with respect to each other with adjacent ends spaced and provided with flange heads 25. These heads 25 are molded in a coupler 26 formed of rubber or other flexible material. The outer ends 27 of each of the end portions 24 have a tapped bore 28 into which is threaded a connecting screw 29 by which the suspension rod 23 is connected to the platform 14 and to an adjacent bar 20.

The vibrator comprises laminated plates 30 and a field coil 31. In the present construction, the vibrator is mounted to provide a minimum air space 32 between the vibrator 19 and a magnetic plate 32' carried beneath the platform 14. By this arrangement, when the weight of a person is mounted on the platform 14 causing the platform 14 to move downwardly, the air space between the vibrator and the plate 32' will remain substantially constant.

By this construction, it will be apparent that the vibrator 19 is suspended from and beneath the platform 14 and that the vibratory impulses will therefore be transmitted directly to the platform 14.

As shown in the preferred form of construction, the side walls are of open construction. Such arrangement provides air circulation beneath the platform 14. However, I find that for such purpose it is not necessary that such side walls may be of open construction but may be of the same construction as the end walls, if desired.

In use, a person desiring to receive the vibratory treatment will stand upon the platform 14, preferably with the feet upon the area designated by the simulated footprints 17. The vibrations when the vibrator 19 is energized will be transmitted to the platform 14 and with maximum effectiveness be communicated to the person standing upon the platform.

The simplified construction for suspending the vibrator from the platform assures not only vigorous vibration of the platform but also reduces the noise resulting from operation of the vibrator to a minimum; in addition, the air gap is maintained relatively constant regardless of the load imposed upon the platform, and the construction is such that the oscillatory movement of the platform is not dampened.

If desired, the apparatus may be controlled by a coin-controlled device so that it may be placed in public places for general use of the public.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. A kinesitherapy apparatus comprising a base having a top wall providing a platform, a vibrator within the base below the top wall, means for supporting said vibrator in spaced relation to the under side of said top wall within said base, said means comprising a suspension structure connected to the top wall adjacent each corner thereof and adjacent to each corner of the vibrator and each of said suspension structures including aligned rod

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elements and a resilient intermediate member molded to adjacent end portions of said rod elements.

2. A kinesitherapy apparatus comprising a base having solid end walls, slotted side walls and a top wall providing a platform, a vibrator within the base, means for supporting said vibrator in spaced relation to the under side of said top wall within said base below said top wall, said means comprising a suspension structure connected to the top wall adjacent each corner thereof and adjacent to each corner of the vibrator and each of said suspension structures including aligned rod elements and a resilient intermediate member molded to adjacent end portions of said rod elements.

3. A vibratory apparatus for communicating vibrations to the body of a person comprising a bottomless frame having a top wall providing a platform on which a person stands, a vibrator suspended from said top wall within said frame below and in spaced relation to said platform and comprising opposite parallelly extending supporting bars, a suspension structure connected to the platform at each corner thereof and extending downwardly therefrom and including aligned rod elements and a resilient intermediate member molded to adjacent end portions of said rod elements, and means for connecting the lower end portion of certain of said rod elements to the adjacent supporting bar to suspend the same in vibrator supporting position within said frame.

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4. A vibratory apparatus for communicating vibrations to the body of a person comprising a bottomless frame having solid end walls, slotted side walls, and a top wall providing a platform on which a person stands, a vibrator suspended from said top wall within said frame below and in spaced relation to said platform and comprising opposite parallelly extending supporting bars, a suspension structure connected to the platform at each corner thereof and extending downwardly therefrom and including aligned rod elements and a resilient intermediate member molded to adjacent end portions of said rod elements, and means for connecting the lower end portion of certain of said rod elements to the adjacent supporting bar to suspend the same in vibrator supporting position within said frame.

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