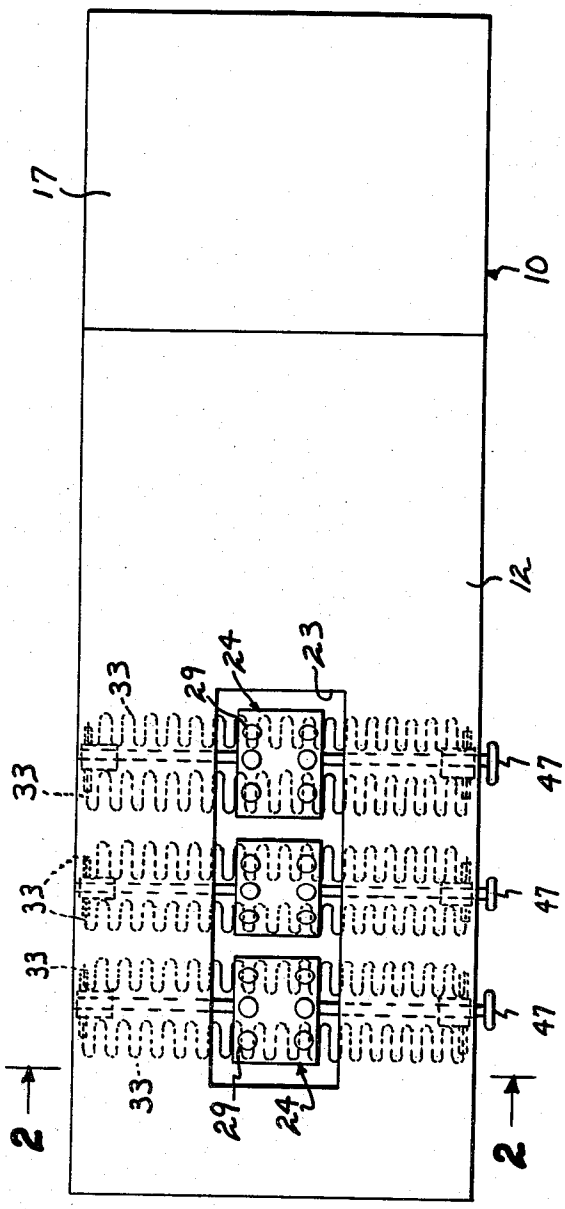
Dec. 10, 1963 W. M. RUSSELL 3,113,567

SPINAL MASSAGE APPARATUS

Filed May 31, 1962

3 Sheets-Sheet 1

FIG. 1



INVENTOR.

William M. Russell

BY

Jennings, Carter & Thompson

Attorneys

Dec. 10, 1963 W. M. RUSSELL 3,113,567

SPINAL MASSAGE APPARATUS

Filed May 31, 1962 3 Sheets-Sheet 2

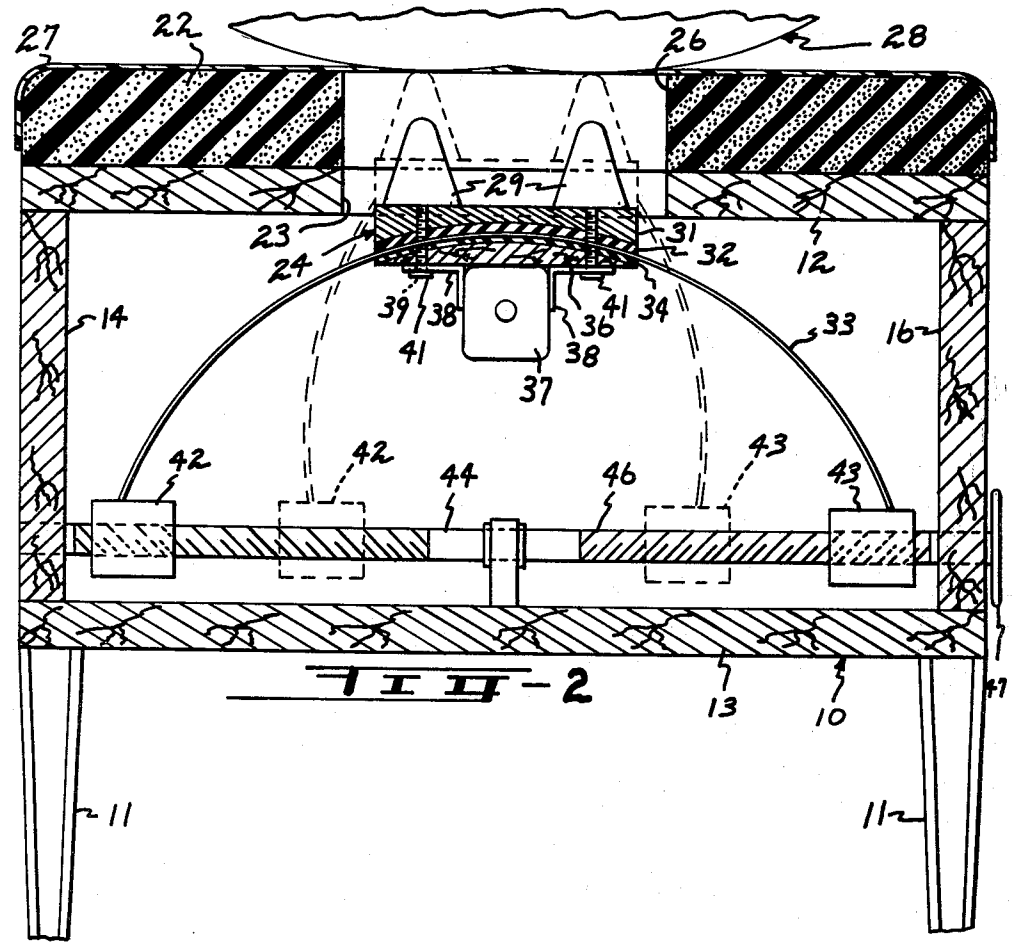


FIG-2

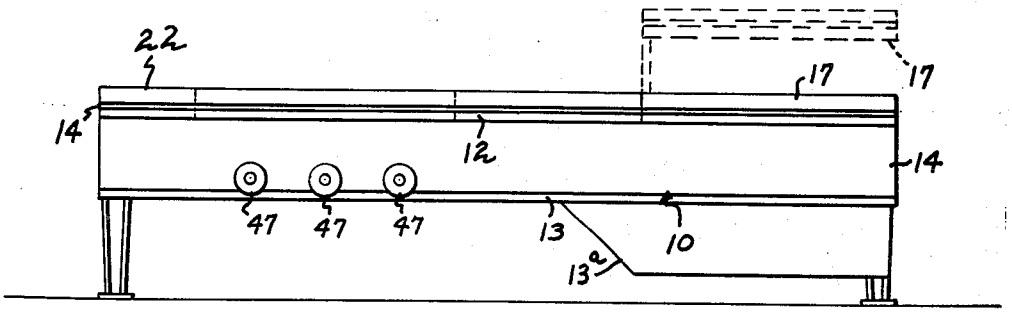


FIG-3

INVENTOR.
William M. Russell

BY
Jennings, Carter & Thompson
Attorneys

Dec. 10, 1963 W. M. RUSSELL 3,113,567

SPINAL MASSAGE APPARATUS

Filed May 31, 1962 3 Sheets-Sheet 3

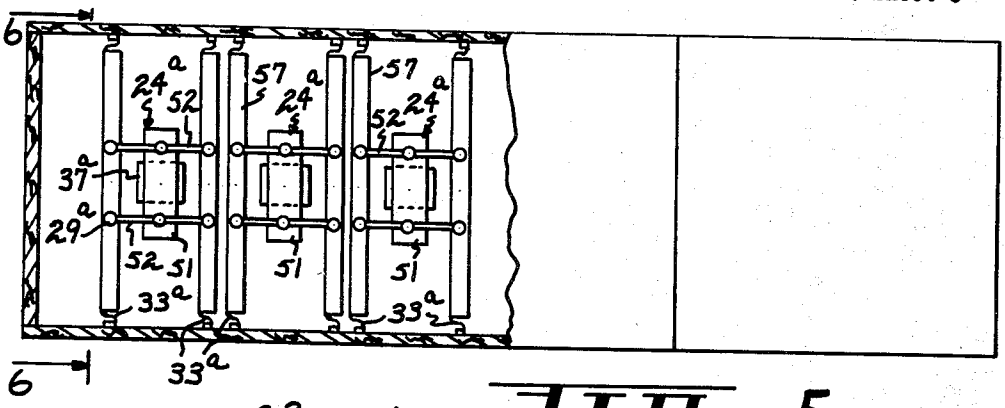


FIG. 5

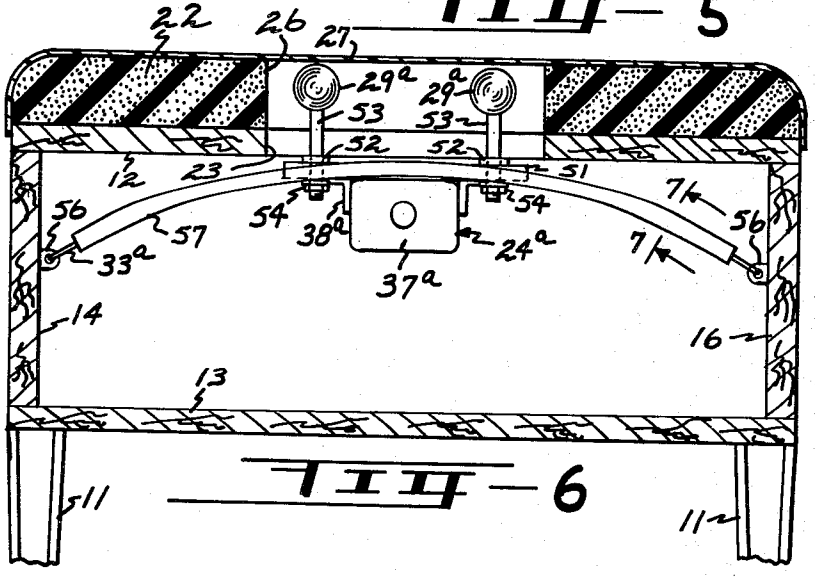


FIG. 6

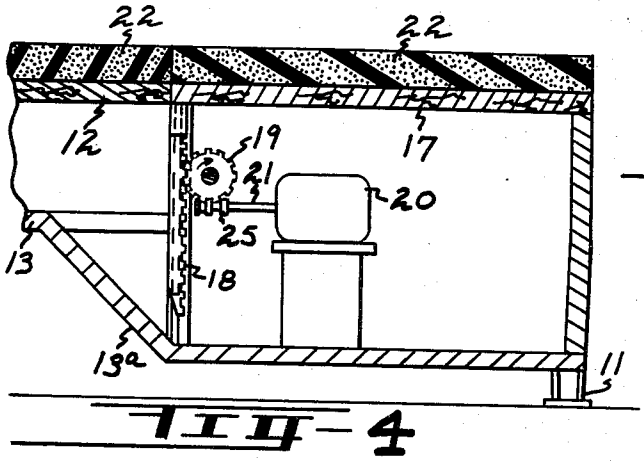


FIG. 4

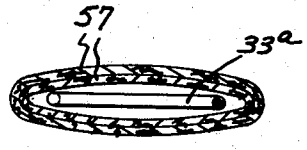


FIG. 7

INVENTOR.
William M. Russell
BY
Jennings, Carter & Thompson
Attorneys

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Patented Dec. 10, 1963

3,113,567

SPINAL MASSAGE APPARATUS

William M. Russell, Hartford, Ala. (% State Vocational Technical School, Napier Field, Dothan, Ala.), assignor of fifty percent to Phillip J. Hamm, Napier Field, Ala.

Filed May 31, 1962, Ser. No. 199,141
1 Claim. (Cl. 128—33)

This invention relates to spinal massage apparatus and more particularly to such apparatus for vibrating only those muscles associated with the spinal column.

An object of my invention is to provide spinal massage apparatus of the character designated which shall include upwardly extending members having smooth upper surfaces and mounted for vibration within an opening or slot provided in a relatively flat support for a patient's back, whereby selected areas of the sacro-spinalis muscles may be massaged from the sacrum to the occiput.

Another object of my invention is to provide spinal massage apparatus which shall include means for holding the vibrating members at the proper position relative to the patient.

A further object of my invention is to provide spinal massage apparatus of the character designated which shall be simple of construction, economical of manufacture and one which may be readily mounted within a conventional type massage table.

Briefly, my improved spinal massage apparatus comprises a relatively flat support member disposed to support the back of a patient and having at least one opening therein in position to receive the area of the patient's spinal column. A plurality of upwardly extending members having rounded upper ends are mounted for vibration within the opening in position to massage the sacro-spinalis muscles of the spinal column.

Apparatus embodying features of my invention is illustrated in the accompanying drawings, forming a part of this application, in which:

FIG. 1 is a top plan view showing my improved apparatus associated with a massage table;

FIG. 2 is an enlarged sectional view taken generally along the line 2—2 of FIG. 1;

FIG. 3 is a side elevational view of the massage table, drawn to a small scale, showing the means for elevating the feet of the patient in dotted lines;

FIG. 4 is a fragmental, sectional view showing the means for elevating the feet of a patient;

FIG. 5 is a top plan view, partly broken away and in section, showing a modified form of my invention;

FIG. 6 is a sectional view taken generally along the line 6—6 of FIG. 5; and,

FIG. 7 is an enlarged view taken along the line 7—7 of FIG. 5.

Referring now to the drawings for a better understanding of my invention, I show a massage table 10 having side edges and supported by legs 11. The massage table is provided with vertically spaced, horizontally extending members 12 and 13 which are connected to each other at the sides thereof by side walls 14 and 16.

The lowermost horizontal member 13 terminates in a downwardly and rearwardly extending portion 13a provided with a vertically movable section 17 which is supported by a depending rack 18. The rack 18 meshes with a pinion 19 which in turn is driven by a motor 20 through a shaft 21 and a worm 25. It will thus be seen that the movable section 17 may be moved to the dotted line position shown in FIG. 3 whereby it is in position to support the feet of a patient at a higher elevation than the remainder of the body. Mounted on top of the uppermost horizontal members 12 including its movable

section 17 is a layer of resilient material 22, such as foam rubber or the like.

As clearly shown in FIG. 1 an elongated opening 23 is provided in the horizontal member 12 substantially equidistant from the side edges, as shown in FIG. 1 for receiving three separate vibratory units, each being indicated by the numeral 24. Also, an opening 26 is provided in the resilient material 22 which is in alignment with the opening 23 for receiving the vibratory units, as shown in FIG. 2. A layer of thin material 27 extends over the layer of resilient material 22 and the openings 23 and 26, as shown in FIG. 2, whereby the vibratory units 24 are hidden from view. The openings 23 and 26 in the horizontal member 12 and the resilient member 22, respectively, are in the area of the massage table 10 which receives the spinal column of a patient indicated generally at 28.

Each vibratory unit 24 comprises a plurality of vibrator members 29 which are mounted on a relatively rigid plate-like member 31 formed of a suitable material, such as metal. The vibrator members 29 are rounded at the top thereof, as shown, and may be formed of any suitable material, such as rubber, plastic or the like. The plate-like member 31 is supported by a resilient member 32 which in turn engages the upper surface of an arcuate spring member 33. Preferably, there are two arcuate spring members 33 for each vibratory unit 24. Positioned adjacent the undersurface of the arcuate spring member 33 is a second resilient member 34 which is supported by a relatively rigid member 36 formed of wood or the like. Mounted adjacent the undersurface of the member 34 is a vibrator indicated generally at 37. Suitable angle brackets 38 are carried by the vibrator 37 and openings 39 are provided in the angle brackets for receiving retaining bolts 41 which pass through the members 36, 34, springs 33, resilient member 32 and the plate-like member 31 and are secured to the lower portions of the members 29. By so connecting the members 29 to the vibrator 37, the entire group of members 29 vibrate as a unit. That is, the vibrator members 29 all vibrate with the relatively rigid plate-like member 31 as vibratory motion is imparted thereto by the vibrator 37.

The lower or free ends of the arcuate spring members 33 are connected to movable supports 42 and 43 which are provided with internal threads for engagement with threaded shafts 44 and 46, respectively. The shaft 44 is provided with left-hand threads while the shaft 46 is provided with right-hand threads and the shafts are in axial alignment with and rigidly secured to each other. Accordingly, upon rotating the shafts 44 and 46 in one direction by means of a suitable hand wheel 47, the supports 42 and 43 move inwardly toward each other toward the dotted line position shown in FIG. 2. On the other hand upon rotation of the hand wheel 47 in the opposite direction, the supports 42 and 43 move away from each other or toward the solid line position shown in FIG. 2. By varying the elevation of the vibrator members 29 by adjusting the relative positions of the supports 42 and 43, the intensity of the vibration may be controlled to impart the desired vibration to the sacro-spinalis muscles of the spinal column.

In operation, the patient is placed on the massage table, as shown in FIG. 2, in a supine position with the feet elevated and supported by the member 19. In this position, the openings 23 and 26 and the vibratory units 24 therein are subjacent the patient's spinal column. The relatively thin cover member 27 conceals the openings 23 and 26 and prevents the patient's back from coming into direct contact with the vibrator members 29. Each vibrator 37 is controlled by a rheostat in a manner well understood in the art. Upon imparting vibration to the vibrator members 29, they massage the sacrospinalis

muscles of the spinal column whereby the sacrospinalis muscles are relaxed.

Referring now to FIGS. 5, 6 and 7 of the drawings, I show a modified form of my invention in which each vibratory unit **24a** comprises a vibrator **37a** which is secured to a metal plate **51** by suitable angle brackets **38a** or the like. The metal plates **51** are in turn secured to elongated bar members **52** by upstanding bolt-like members **53** having suitable retaining nuts **54** at opposite sides thereof. The upper ends of the bolt-like members carry round vibrator members **29a** at the top thereof which serve the same function as the vibrator members **29** described hereinabove.

The ends of the bars **52** are secured to arcuate spring members **33a** by the upstanding bolt-like members **53** having retaining nuts **54** and round members **29a** at the upper ends thereof. The ends of the arcuate spring members **33a** are secured to inwardly projecting lugs **56** carried by the side members **14** and **16**, whereby the members **29a** all vibrate with the metal plate **51** as vibratory motion is imparted thereto by the vibrator **37a**. That is, upon imparting vibration to the members **29a**, they massage the sacrospinalis muscles of the spinal column.

Each of the arcuate spring members **33a** is covered by several layers of flexible material **57**, such as fabric, plastic, or the like. The material **57** may be secured to the spring members **33a** by suitable means, such as by stitching. Also, the flexible material is secured firmly in place between the retaining nuts **54**, as shown in FIG. 6.

The operation of the apparatus shown in FIGS. 5 and 6 is substantially identical to the operation of the apparatus shown in FIGS. 1–4, the principal difference being the fact that the ends of the arcuate springs **33a** are secured to stationary lugs **56** instead of being secured to adjustable supporting members.

From the foregoing, it will be seen that I have devised an improved spinal massage apparatus which is adapted to massage selected areas of the sacrospinalis muscles from sacrum to occiput. That is, by providing an elongated opening in the area of the massage table which receives the patient's spinal column and then providing a series of longitudinally aligned vibratory units therein, selected areas of the sacrospinalis muscles may be massaged. By providing upwardly extending vibrating members which massage the sacrospinalis muscles and rigidly connecting the vibrating members to each other, uniform vibration is imparted to the entire area covered by the vibratory units. Furthermore, by providing means for varying the elevation of the vibratory units and the resilient members carried thereby, the intensity of vibration may be accurately controlled.

While I have shown my invention in two forms, it will be obvious to those skilled in the art that it is not so limited but is susceptible of various other changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claim.

What I claim is:

Spinal massage apparatus comprising:

(*a*) a relatively flat support member disposed to support the back of a patient and having side edges,

(*b*) there being at least one opening in said support member substantially equidistant from said side edges,

(*c*) a relatively rigid plate-like member within said opening and extending in a plane substantially parallel to said support member,

(*d*) a plurality of upwardly extending vibrator members having rounded upper portions and mounted on the upper surface of said plate-like member in position to massage the sacrospinalis muscles of a spinal column,

(*e*) a vibratory unit connected to the under surface of said plate-like member for imparting vibratory motion to said plate-like member and said vibrator members,

(*f*) at least one arcuate spring member,

(*g*) supports carried by said flat support member, said arcuate spring member having ends connected to said supports with the central portion thereof being bowed upwardly and connected to the plate-like member, and

(*h*) means to hold said supports for the ends of the arcuate spring member at selected positions relative to each other whereby the elevation of the plate-like member is adjustable to control the intensity of vibration.

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