

Feb. 26, 1963

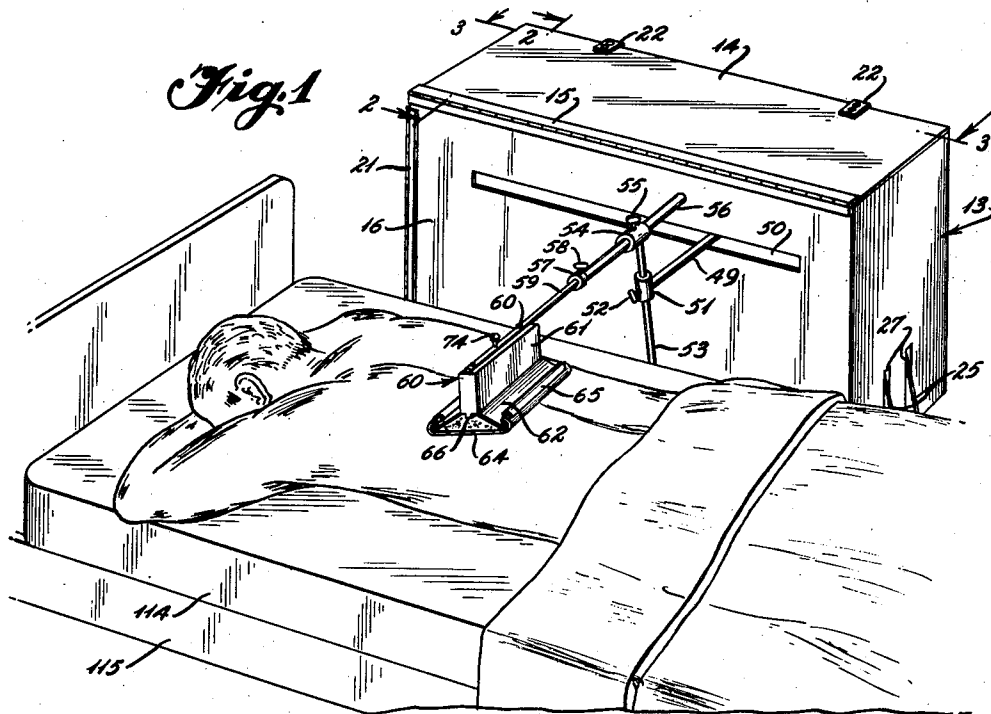
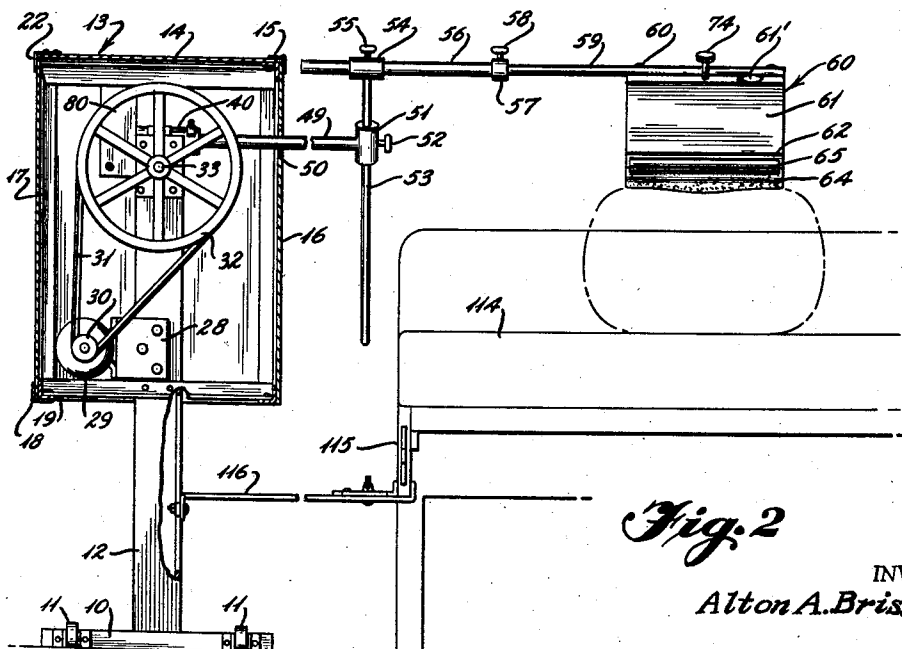
A. A. BRISSON

3,078,843

THERAPEUTIC APPARATUS

Filed Jan. 16, 1961

4 Sheets-Sheet 1



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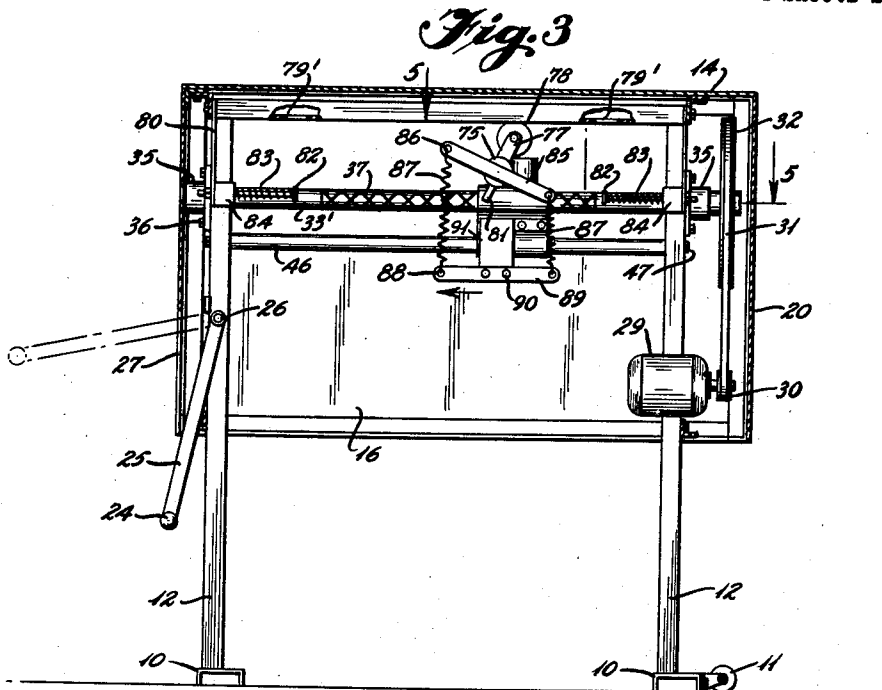
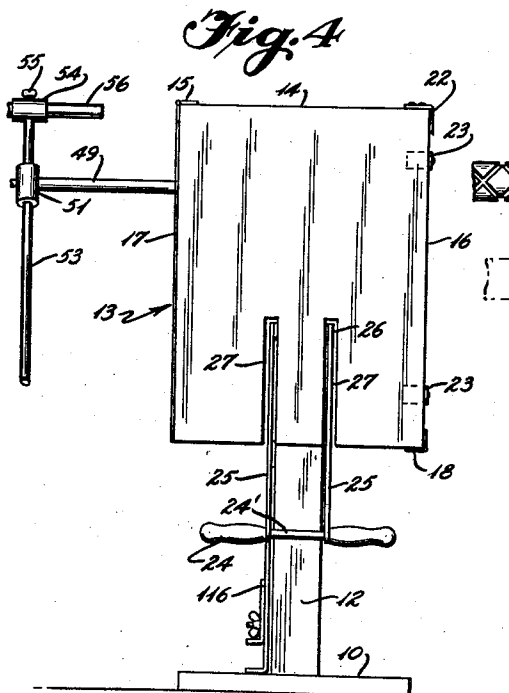
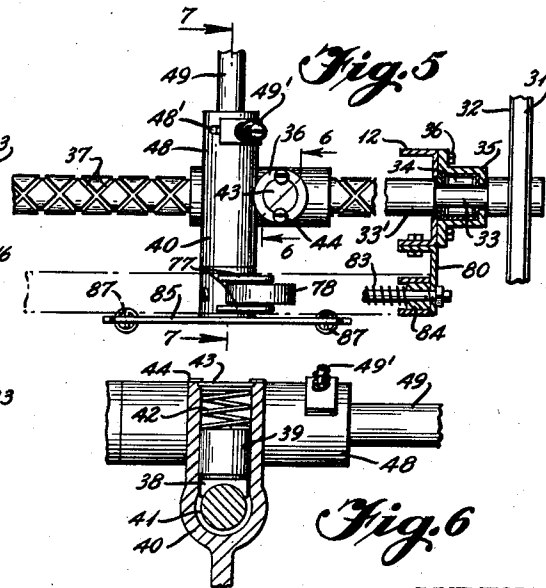
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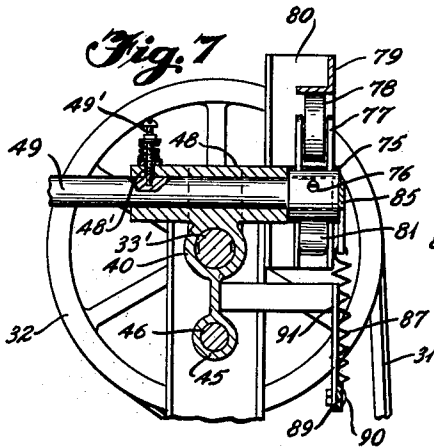


Fig. 8

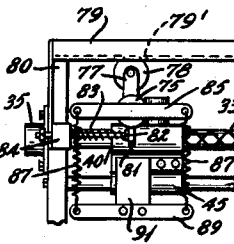


Fig. 9

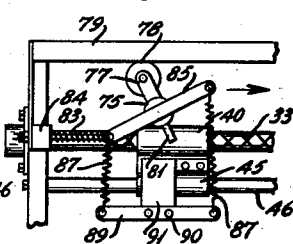


Fig. 10

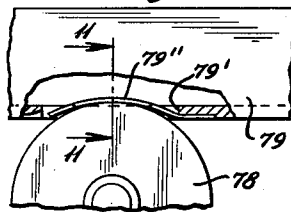


Fig. 11

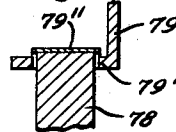
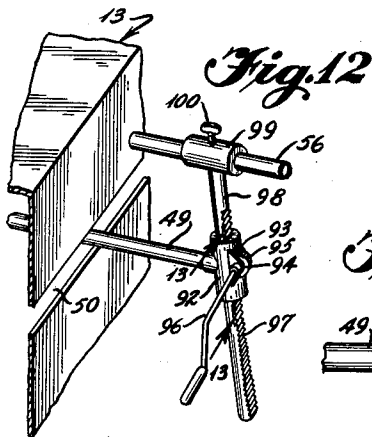


Fig. 12

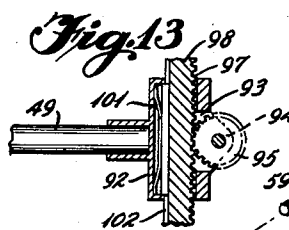


Fig. 13

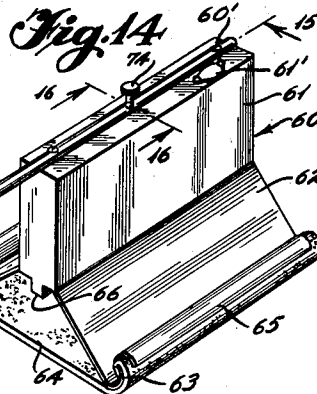


Fig. 14

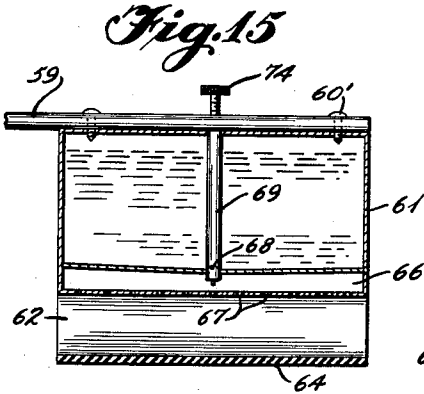


Fig. 15

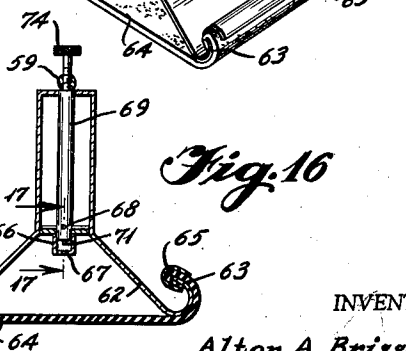


Fig. 16

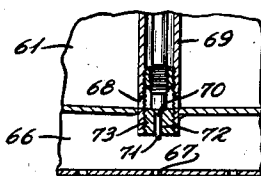


Fig. 17

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Fig. 18

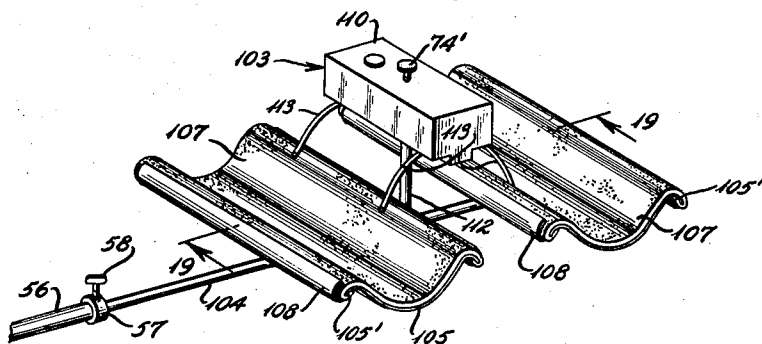
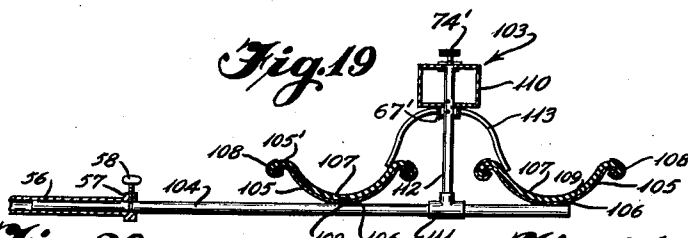


Fig. 19



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3,078,843

THERAPEUTIC APPARATUS

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7 Claims. (Cl. 128-52)

This invention relates to the therapeutic treatment of the body including the stroking or massaging of the same for improving its tone and health and to equipment by which such treatment can be administered with minimum skill, attention and effort and with the derivation of maximum benefit.

The invention relates particularly to apparatus which can be used upon a person in prone or substantially prone position and facing downwardly or upwardly and the person massaged or given body treatment in opposite directions along surfaces of the body.

Devices of various kinds have been produced for treating the body including vibrators, massagers, and the like, however, these have been of limited application and use, and have required special attention by the user or personal care by the attendant and otherwise have been unsatisfactory.

Among the objects of the invention are to provide portable or mobile apparatus, including a base with rollers at one end and a handle at the other which can be raised to lift such end and the device rolled from place to place, providing a cabinet on such base within which is combined an electric motor or other source of power, a horizontally mounted member with means to cause reciprocation of the same, an arm carried by said member extending from the cabinet in a position to be reciprocated by said motor along one or more surfaces of the body of an individual and with a massager including means for tilting the same to a limited degree at the beginning of each stroke in each direction, and with a container for lubricant carried with the massager for supplying such lubricant to the skin of the person treated.

Another object of the invention is to provide a generally horizontal mounting for a massager carrying arm to cause the movement of said arm alternatively in one direction and then reverse movement in the opposite direction, with a slight tilting of the arm prior to the beginning of each stroke and with a massager including a container for lubricant carried on the end of the arm and constructed to supply lubricant to the body contacted by the massager.

Another object of the invention is to provide a massaging unit of a minimum number of parts which can be readily transported and used for massaging and applying a skin lubricating substance to different parts of the body without the aid of an attendant.

Other objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a perspective illustrating the application of the invention;

FIG. 2, a vertical section on the line 2-2 of FIG. 1;

FIG. 3, a longitudinal section on the line 3-3 of FIG. 1;

FIG. 4, an end elevation;

FIG. 5, an enlarged fragmentary sectional view taken on the line 5-5 of FIG. 3;

FIG. 6, a detail section on the line 6-6 of FIG. 5;

FIG. 7, a vertical section on the line 7-7 of FIG. 5;

FIGS. 8 and 9, fragmentary operational details of the reversing mechanism of FIG. 3;

FIG. 10, an enlarged fragmentary detail of the roller and track of FIG. 8;

FIG. 11, a vertical section on the line 11-11 of FIG. 10;

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FIG. 12, a perspective of a modified form of adjusting means;

FIG. 13, an enlarged sectional view on the line 13-13 of FIG. 12;

FIG. 14, an enlarged detail perspective of the massager;

FIG. 15, a longitudinal section on the line 15-15 of FIG. 14;

FIG. 16, a transverse section on the line 16-16 of FIG. 14;

FIG. 17, an enlarged vertical section on the line 17-17 of FIG. 16;

FIG. 18, another form of a massager unit for use on the arms and legs;

FIG. 19, a transverse section on the line 19-19 of FIG. 18; and

FIGS. 20, 21, 22, detail views illustrating the use of the massager of FIGS. 18-19.

Briefly, stated, the invention is a device for massaging or giving therapeutic treatment to portions of the human body and comprises a cabinet, massaging mechanism supported in an exterior position from the interior of the cabinet and with means for moving the massager in a manner to give it a reciprocating or stroking action and for changing the angularity of the massager at the beginning of its stroke in each direction.

With continued reference to the drawings, the present invention is a device by which portions of the body may be given therapeutic treatment, such device comprising floor engaging members in the form of a pair of spaced horizontally disposed spaced inverted U-shaped channel members 10, one at each end of the device. On the remote side of one of the channel members from the other are attached spaced rollers 11 in order that when the opposite end of the unit or other channel member is elevated the rollers may be used for the transporting of the device.

Centrally located on the inverted channel members 10 are mounted a pair of upright channel members 12, which form a support for a housing 13, having a top 14, attached by a piano hinge 15 to the front wall 16 of the housing, a rear wall 17 being connected by a piano hinge 18 to an angle iron 19 along the bottom of the housing. The housing has a movable end 20 supported by a piano hinge 21 attached to the front wall 16 of the housing. By having the top 14, rear wall 17 and end wall 20 pivotally mounted so that they can be swung open, or back, access may be had to the interior of the housing. The back is secured in closed position by angle members 22 extending over the edges of the free end of the top and upper edge of the back 17. The end member 20 likewise is secured in closed position by angular members 23 attached to the end of the back panel 17.

A pair of handles 24 are mounted on the opposite end of a cross rod 24' extending through a pair of parallel bars 25, and bars being connected by pivots 26 to one of the channel members 12, and the closed end of the housing 13 has slots 27 for accommodating the bars 25 when the handles 24 are moved upwardly to elevate the end of the device for transporting it from place to place.

Within the housing 13 (FIGS. 2 and 3) by means of an L-shaped bracket 28 is mounted an electric motor 29 having a pulley 30 which by means of a belt 31 drives a larger pulley 32 on one of the reduced ends 33 of a shaft 33'. The reduced opposite ends 33 of the shaft (FIG. 5) are mounted in bearings 34 in housings 35 fastened by bolts 36 to the upright channel members 12.

The shaft 33' is provided with means whereby motion may be transmitted to a fitting 40 thereon such means being in the form of double spiral threads or grooves 37 on the shaft 33' in which there is contained a key 38 within a vertical chamber or bore 39 of the fitting 40 having a horizontal bore 41. The key 38 is urged into

the one of the grooves 37, in the shaft 33', by means of a coiled spring 42 bearing against a cover plate 43 at its outer end and held in place by screws 44.

As the shaft 33' is rotated the key 38 located in one of the double spiral grooves 37 will cause the fitting 40 to travel along the shaft in one direction until it reaches the remote end of the groove 37 whereupon the key 38 will rotate approximately 90° and follow the other or opposite set of the spiral grooves 37. In order to maintain the fitting 40 in an upright position and to keep it from rotating, it is provided with a second bore 45 in spaced relation below and parallel to the first bore 41.

Within the bore 41 there is received a guide rod or shaft 46 which is fixed between the channel members 12, at the opposite ends of the housing, by means of bolts 47. The guide rod 46 and parallel shaft 33' (FIGS. 3 and 7) maintain the fitting 40 in a definite position at all times as it travels back and forth along the shaft 33'.

The fitting 40 is provided along its upper portion with a transverse sleeve 48 in the bore of which is oscillatably mounted a shaft 49 which extends outwardly (FIG. 1) through a slot 50 in the front of casing 13, such shaft having a collar 51 at right angles thereto on its outer end with a set screw 52 for the adjustable reception therein of a rod 53, having a sleeve or collar 54 at its upper end, with a set screw 55 for the reception and fastening in said collar of a pair of telescopic members including a hollow rod or tube 56 having an end 57 with a set screw 58 for the adjustable telescopic reception of a rod 59. A massager 60 is attached by screws or other fasteners 60' to the outer end of the rod 59, such massager including a tank or container 61 for a lubricant on the body, and having diverging flanges 62 terminating in rearwardly curved portions 63 (FIGS. 14 and 16) spanned by an applicator 64 of sponge rubber or the like. The ends of the applicator 64 are clamped over the reversely curved portions 63 of the massager by means of generally U-shaped elongated spring type clamps 65.

The tank 61 is provided with a filling opening and closure 61' on its top and along its bottom with an inverted channel portion 66 having a series of openings 67 spaced lengthwise along the bottom of the same. Communication between the interior of the tank and the channel is provided by means of openings 68 (FIG. 17) in a valve sleeve 69. A discharge is provided from the lower end of the sleeve 69 by means of a valve 70 having a guide 71 through an opening 72 in a removable valve seat 73 threaded into the lower end of the tube 69. The upper end of the valve 70 is provided with a knurled operating head 74 so that by the adjustment of the valve relative to its seat a small amount of lotion or lubricant may gravitate from the tank 61 into the channel 66. Lubricant in the channel 66 can gravitate through the openings or ports 67 onto the applicator 64.

In view of the fact that the shaft 49 has a collar 51 with a set screw 52, the rod 53 can be adjusted vertically therein and by means of the collar 54 and set screw 55 the tube 56 can be adjusted horizontally with additional adjustment provided by the rod 59 within the tube 56.

In order that the applicator 64 may be disposed at a slight angle with its forward portion slightly above its trailing portion during movement in one direction, the rod 49 is provided on its remote end (FIGS. 3 and 7) with a cam 75 attached thereto by a screw or other fastener 76. The cam 75 has spaced arms 77 supporting a roller 78 in engagement with a track 79 having openings 79' in each of which is a leaf opening 79''. The openings 79' are located adjacent opposite ends of the track 79 and at the extremities of the spiral grooves 37 for assisting in reversing the angle of the cams 75. The track 79 is mounted by means of L-shaped brackets 80, one at each end, attached to the upper ends of the upright channel members 12.

The cam 75 (FIGS. 5 and 8) has a depending projection 81 whereby when the fitting 40 reaches the end of

its travel in one direction this projection 81 will engage a spring loaded stop 82 supported by a boss or sleeve 84 extending through the bracket 80 and urged toward extreme position by a spring 83. Across the end of the cam 75 is a bar 85 having openings 86 in its outer ends in which springs 87 are engaged, such springs having their opposite ends engaged in openings 88 in a horizontal bar 89 secured by fasteners 90 to a bracket 91 integral with the fitting 40.

In order to prevent the shaft 49 carrying the massager from being abruptly moved from one angular position to another, a spring loaded friction brake 49' is provided threadably attached to the shaft 49 and rotatably mounted in a slot 48' in the fitting 48. In view of the fact that the friction brake is carried by the shaft 49 and bears against the exterior of the sleeve 48 a gradual transition is accomplished.

In FIGS. 12 and 13 there is disclosed a modified mounting of the massager 60 from the shaft 49, whereby a patient may more easily make a desired adjustment. On the end of the shaft, which projects through the slot 50 in the front of the cabinet, is fixed at right angles a hollow T-fitting 92 having a slot 93 lengthwise thereof with spaced flanges 94, one at each side thereof, between which flanges a pinion 95 is located fixed on a crank shaft 96 having a handle 96' by which such pinion may be rotated. The pinion 95 engages a rack 97 of a shaft 98 slidable in the T-fitting 92, thus allowing endwise adjustment of the shaft 98 which comes a collar 99 at right angles to the axis of such shaft and a set screw 100. Within the collar 99 is adjustably mounted the shaft 56 previously described. In order to compensate for looseness of the shaft 98 in the T-fitting 92 there is interposed a spring located key 101 (FIG. 13), in a key way 102 in shaft 98.

Instead of the massager 60 of the preceding figures a modified type of massager such as that of FIGS. 18 to 22 for massaging the legs may be employed and supported by the shaft 56. In these figures a massager 103 is provided mounted in a box or shaft 104. The massager 103 is composed of a pair of trough members 105 arranged in substantially parallel relation and secured by walls 106 to the bar in shaft 104. The trough members 105 are curved to conform to the curvature of the legs of the person to be massaged and with their outer side edges provided with reversely curved portions 105. A soft lining 107 is employed to serve as a cushion and to absorb and retain lubricant or other skin treating preparation. The cushion lining may be held in place in desired manner for example, by clips 103 and with or without adhesive 109.

In order to provide skin lubricant a tank 110 is mounted on the shaft 104 by a T-fitting 111 and a post 112 which extends upwardly through the center of the tank and has its upper end provided with a bar to receive valve mechanism as previously described. The tank 110 is similar in structure and function to the tank 61 including a knurled control knob 74'. The tank has a trough portion 67' with lateral arched tubes 113 which supply the skin lubricant to the absorbent cushioning material 107.

In order to allow the massager to rock with the legs of the patient the shaft or rod 104 may be provided with a groove across the top of the shaft, in which groove the set screw 58 may move from one end of the groove to the other.

In order to support a patient a bed 114 is provided having side rails 115 and an adjustable linkage 116 forming a connector is provided which serves to connect the rails 115 with the leg 12 of the massager. In this manner the massager and bed can be kept in parallel relation when in use.

It will be apparent from the foregoing that a simple, practical and relatively inexpensive device is proposed by which massaging may be mechanically administered with minimum effort and suppression and with maximum satisfaction.

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It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof, therefore the invention is not limited by that which is described in the specification and illustrated in the drawings, but only as indicated in the accompanying claims.

What is claimed is:

1. Apparatus for administering therapeutic treatment comprising a support for a patient, a housing, an adjustable connection between said support and said housing, a shaft in said housing rotatably mounted in generally parallel operative relation to said support and having oppositely disposed spirals, a fitting mounted on said shaft and having complementary portions cooperating with said spirals whereby when said shaft is rotated said fitting will be caused to travel back and forth along said spirals, an arm carried by said fitting, a roller attached to said arm, a track fixed relative to said housing and located in a position to be engaged by said roller as said fitting reaches the end of its travel in one direction and causing said arm to rotate a slight amount, a yieldable member near each of the ends of said spirals mounted in position to be engaged by said fitting when it reaches its limit of travel in each direction prior to its travel in a reverse direction, an applicator supported by said arm exteriorly of said housing, and a container connected to said applicator for supplying lubricant thereto.

2. Apparatus for administering therapeutic treatment comprising a support for a patient, a housing, a shaft in said housing rotatably mounted in generally parallel operative relation to said support and having oppositely disposed spirals, a fitting mounted on said shaft and having complementary portions cooperating with said spirals whereby when said shaft is rotated said fitting will be caused to travel back and forth along said spirals, an arm carried by said fitting, a roller attached to said arm, a track fixed relative to said housing and located in a position to be engaged by said roller as said fitting reaches the end of its travel in one direction and causing said arm to rotate a slight amount, a yieldable member near each of the ends of said spirals mounted in position to be engaged by said fitting when it reaches its limit of travel in each direction prior to its travel in a reverse direction, an applicator supported by said arm exteriorly of said housing, and a container connected to said applicator for supplying lubricant thereto.

3. A device for giving therapeutic treatment comprising a support, a massager including an applicator having a work surface and a container operatively associated therewith for supplying a skin lubricant to the applicator, a cabinet connected to said support, a shaft located in said cabinet having spirals, a fitting cooperatively associ-

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ated with said spirals in a manner to move along said shaft when the latter is rotated, an arm carried by said fitting and extending from said cabinet providing a support for said applicator, means for adjusting the angle of said applicator, at the end of travel in each direction and prior to movement in a reverse direction, and means for rotating said shaft.

4. A massage device comprising a housing, applicator supporting means in said housing including a member reciprocable between fixed limits and with an arm projecting from said housing, an applicator adjustable horizontally and vertically on said arm, a container operatively associated with said applicator for supplying a skin lubricant to said applicator, and power means for producing reciprocation of said applicator and for adjusting the angularity of the same for each stroke.

5. A massage device comprising an applicator, lubricant supplying means for said applicator, an arm supporting said applicator and said lubricant supplying means, a fitting mounting said arm, and means mounting said fitting and for causing it to reciprocate between limits and for imparting a slight rotation to said arm to adjust said applicator between its travel in opposite directions.

6. A device for giving therapeutic treatment to the human body comprising the combination of a support for the body, a massager for reciprocating movement in contact with the body, mounting means connected to said support for the body and mounting said massager, said mounting means including means for producing movement of said massager, for reversing the direction of such movement, and for changing the angularity of the massager with each reversal of movement.

7. Apparatus for giving physical treatment to portions of the human body, comprising the combination of a base, a massager means for supplying lubricant to said massager, means for adjustably supporting said massager on said base for reciprocating motion, and means for producing movement of said massager and including means for reversing the direction of such movement and for reversing the angle of the massager with each change of direction.

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