

- [54] **MASSAGING MACHINE**
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- [52] U.S. Cl. **128/58**
- [51] Int. Cl. **A61h 11/00**
- [58] Field of Search.....128/57, 51, 52, 243, 58

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[57] **ABSTRACT**

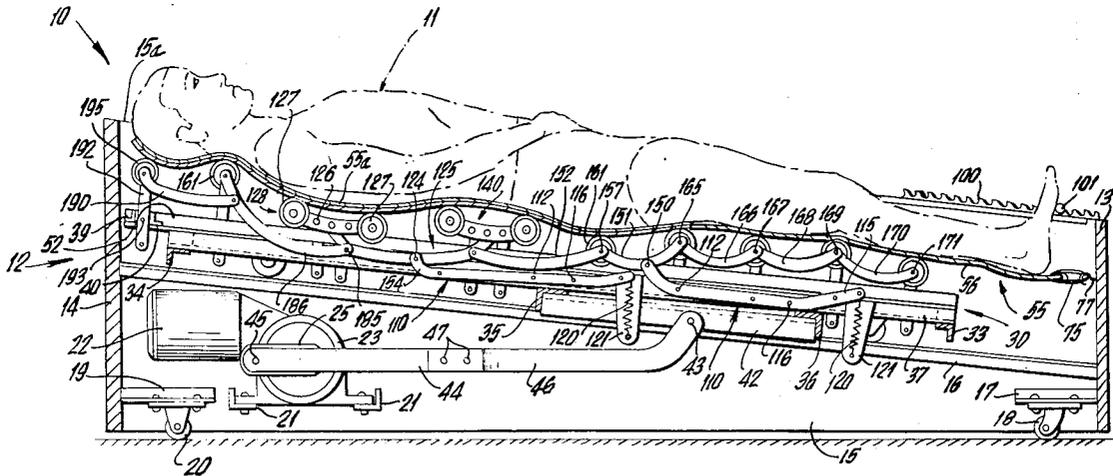
A spring suspended flexible platform on which the person to be massaged lies. On the stand and beneath the platform is a rail for a reciprocating carriage moved back and forth by a motorized mechanism. On the carriage are spring pressed rollers which resiliently press upwardly against the underside of the platform to massage the person lying on the platform. The platform has side aprons to prevent the person thereon from moving his arms or legs down inside the stand, to thereby prevent contact with moving parts of the carriage or rollers.

20 Claims, 9 Drawing Figures

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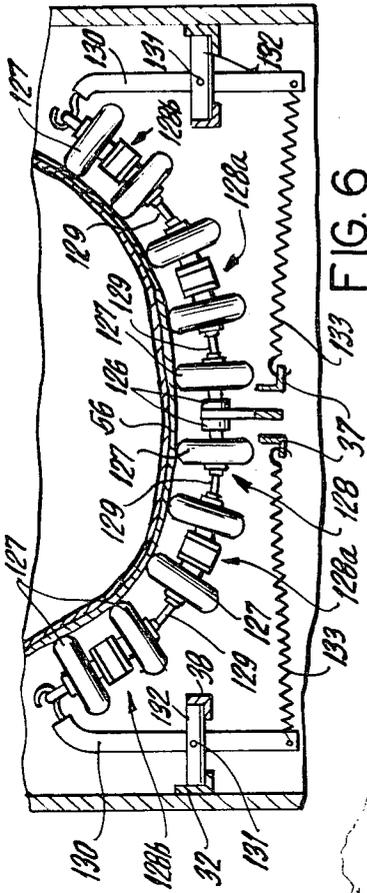


FIG. 6

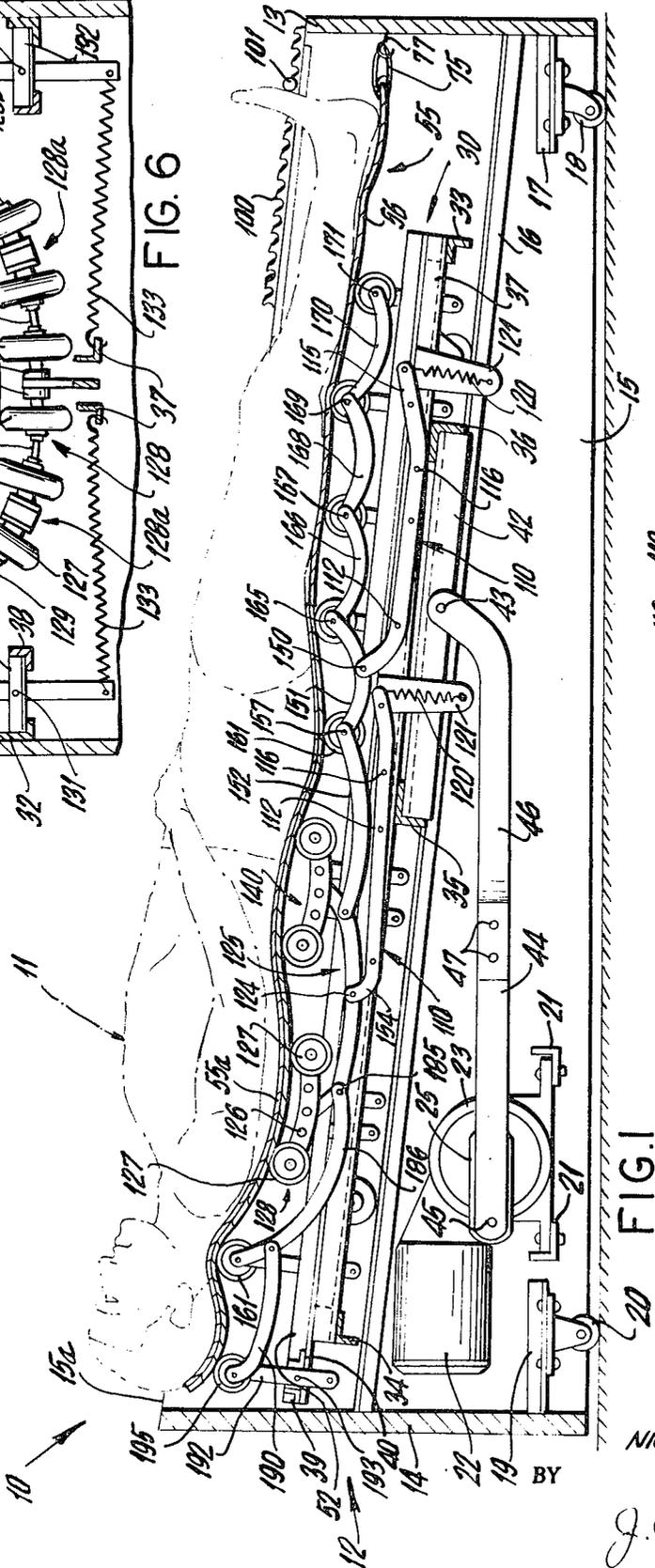


FIG. 1

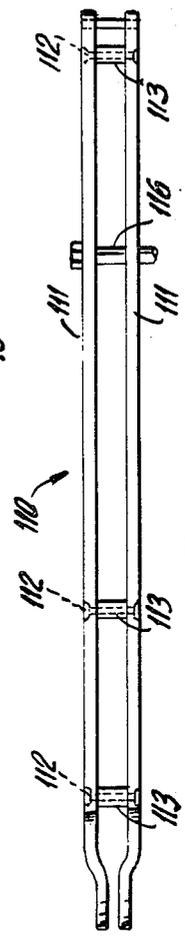


FIG. 8

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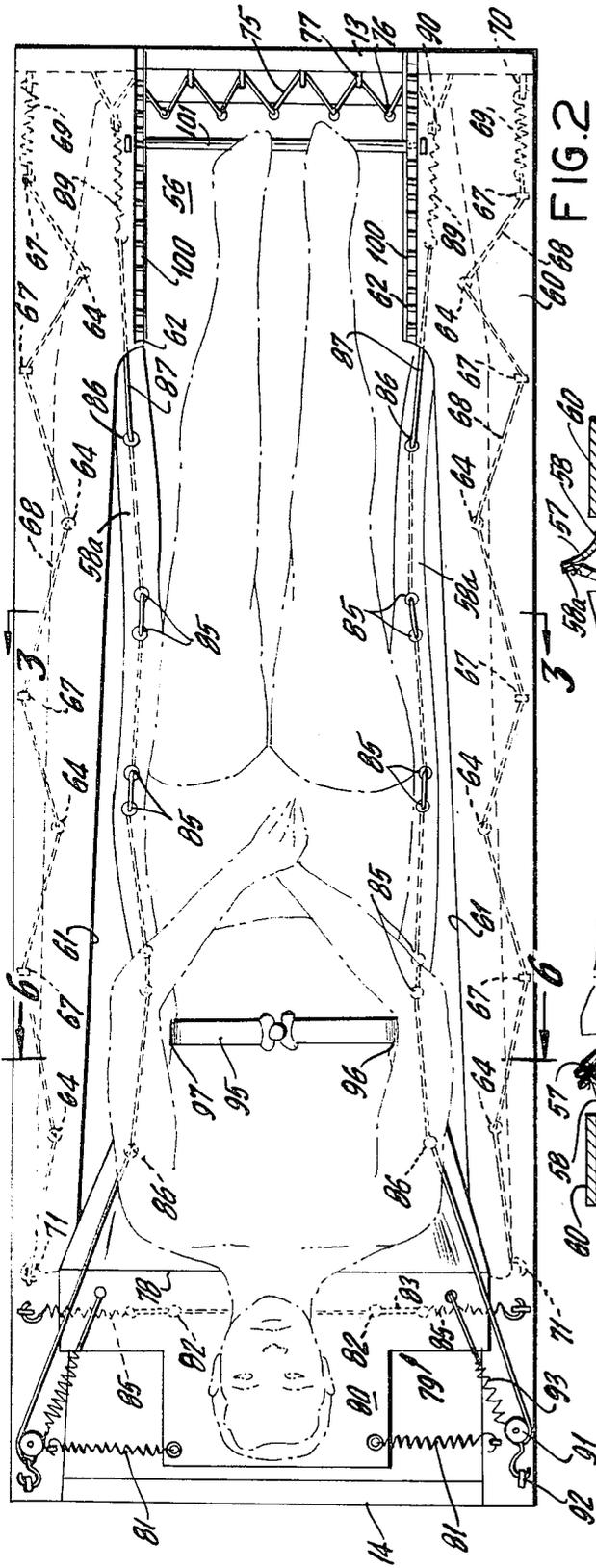


FIG. 2

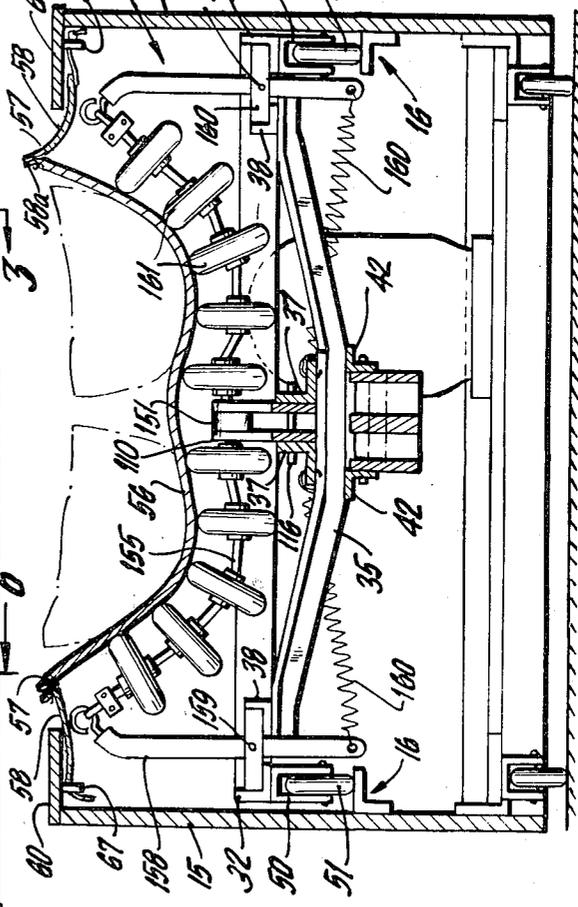


FIG. 3

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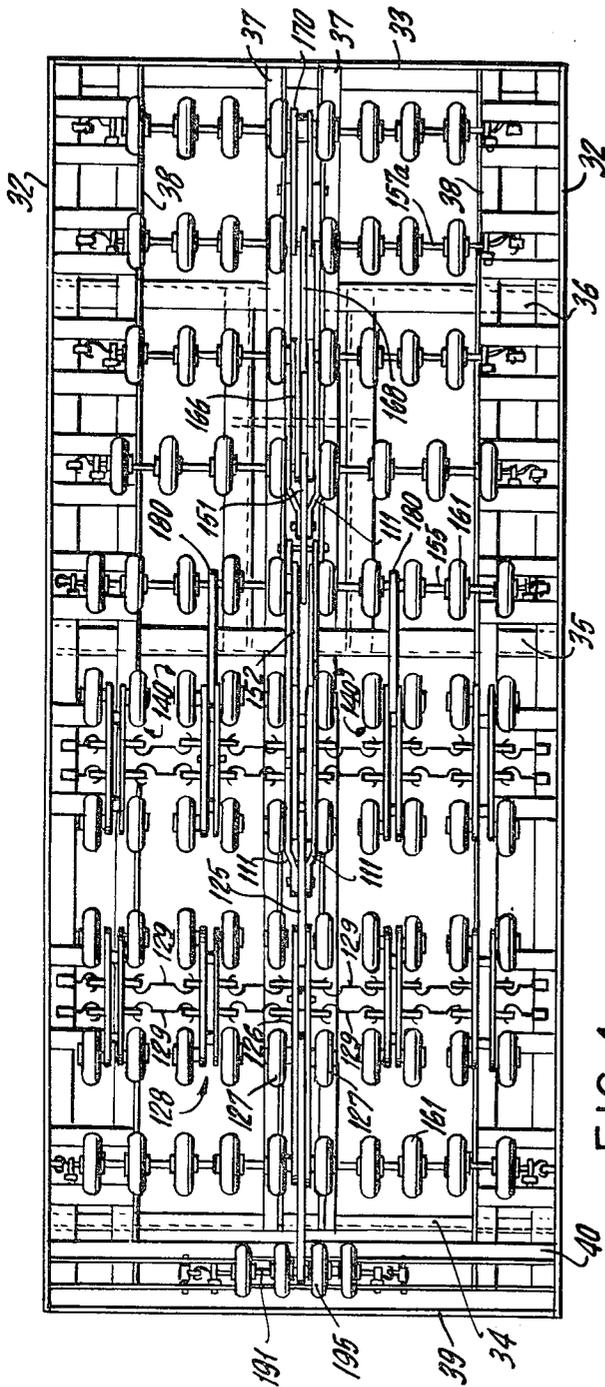


FIG. 4

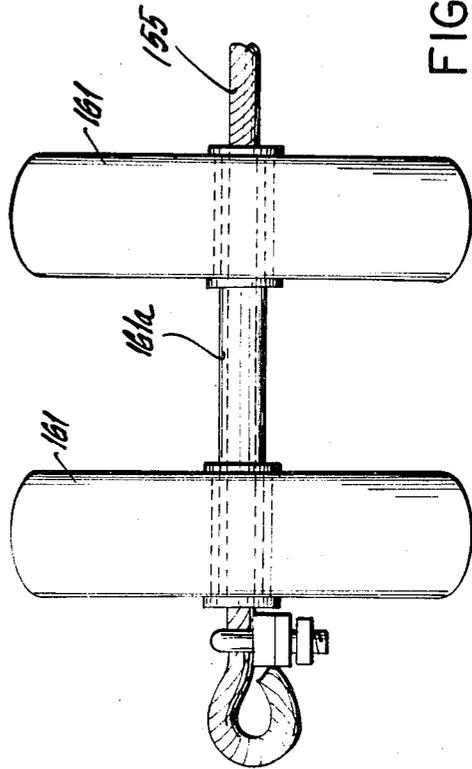


FIG. 9

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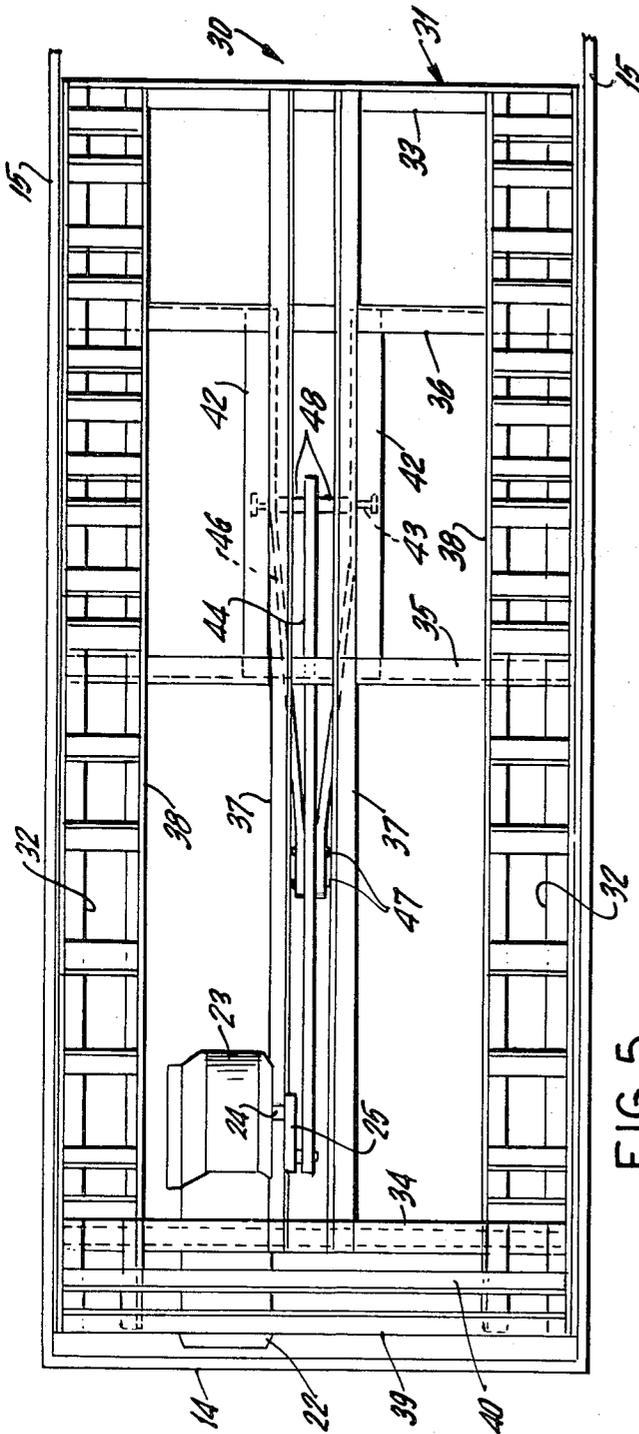


FIG. 5

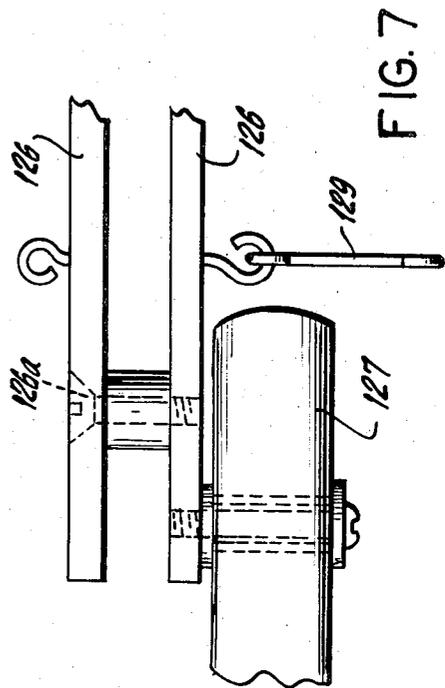


FIG. 7

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MASSAGING MACHINE

This invention relates to massaging apparatus.

An object of this invention is to provide in apparatus of the character described a stand having inclined rail means at the inside of the stand, to support a reciprocating carriage, and motorized means for reciprocating the carriage.

Another object of this invention is to provide, in a massaging apparatus of the character described, a canvas or other flexible sheet platform resiliently mounted on the stand, and resiliently mounted means on the carriage to massage a person lying on the platform.

Yet another object of this invention is to provide in apparatus of the character described, a sheet platform having side aprons to protect the arms and legs of the user.

Still another object of this invention is to provide in apparatus of the character described, means to accommodate persons of different height.

A still further object of this invention is to provide in apparatus of the character described, a sheet platform having a head a neck rest, with spring suspension means, to add to the comfort of the person using the apparatus, and means for the platform to fit the general contours of the person's body.

Another object of this invention is to provide in apparatus of the character described, a plurality of rollers which are floatingly and resiliently supported, so that the rollers will contact the underside of the platform and follow the contours of the user's body, as the carriage is reciprocated.

Yet another object of this invention is to provide in a machine of the character described, a platform which is shaped and contoured to the shape of a person's body, and which is padded to accommodate sensitive persons.

Still another object of this invention is to provide in apparatus of the character described, rollers that are strung on flexible cards that are resiliently pulled outwardly at outer ends, whereby the rollers will give and conform to the person's contours.

A still further object of this invention is to provide a strong, rugged and durable machine of the character described, which shall safely, comfortably and successfully massage and relax a person, and stimulate blood circulation, which shall be relatively inexpensive to manufacture, which shall be comfortable in use and yet practical and efficient to a high degree.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts, which will be exemplified in the construction hereinafter described, and of which the scope of invention will be indicated in the following claims.

In the accompanying drawings in which is shown various illustrative embodiments of this invention,

FIG. 1 is a vertical, longitudinal cross-sectional view of a massaging machine or apparatus embodying the invention; and showing a person thereon, in dot-dash lines;

FIG. 2 is a top plan view of the machine shown in FIG. 1;

FIG. 3 is a cross-sectional view taken on line 3—3 of FIG. 2;

FIG. 4 is a top plan view of the reciprocating carriage forming part of the machine embodying the invention;

FIG. 5 is a partial bottom plan view of the apparatus embodying the invention;

FIG. 6 is a cross-sectional view taken on line 6—6 of FIG. 2;

FIG. 7 is a partial, enlarged top plan view of a roller and its support;

FIG. 8 is a top plan view of a roller support; and

FIG. 9 is a partial, enlarged top plan view of rollers on a flexible cord.

Referring now in detail to the drawing, 10 designates a machine embodying the invention, for massaging a person 11 lying on the machine.

Said machine 10 comprises a stand 12. Said stand 12 comprises a vertical front wall 13, a vertical rear wall 14 and parallel side walls 15. The lower edges of said walls are in the same horizontal plane. However, the side walls 15 have upwardly and rearwardly inclined upper edges 15a. The inclination of edges 15a may be between 15° and 20° to the horizontal if desired. Walls 13, 14, 15 may be firmly attached together in any suitable manner.

Fixed to the inner surfaces of side walls 15 are angle shaped rails 16. Rails 16 are parallel to each other and in the same plane and are parallel to the upper edges 15a of said side walls. Hence the rails are also inclined rearwardly and upwardly.

Attached to wall 13 and adjacent portions of walls 15 is a transverse horizontal support 17 carrying rollers or casters 18 which project slightly below the lower edges of the stand. A similar transverse support 19 interconnects walls 15 adjacent wall 14, and supports rollers or casters 20 which project slightly below the stand. The stand can thus be easily moved around.

Also interconnecting walls 15 near the support 19 are angle shaped brackets 21 supporting an electric motor 22 and gear box 23 provided with a horizontal transverse drive shaft 24 to which a crank arm 25 is fixed.

Mounted on rails 16 for reciprocation thereon, is a carriage 30. Said carriage comprises, a rectangular frame 31. Said frame 31 comprises a pair of longitudinal, parallel, coextensive side angle members 32, interconnected at one end by a transverse angle shaped member 33 and by spaced parallel transverse angle shaped members 34, 35, 36. Transverse members 33, 34, 35, 36 are downwardly depressed at their central portions. The shape of said members is as shown for member 35 in FIG. 3. Mounted on and fixed to the central portions of said transverse members 33, 34, 35 are a pair of longitudinal, parallel, spaced, symmetrically disposed angle members 37. Members 37 are located below the level of the side frame members 32. Transverse member 34 is spaced from the rear ends of side frame members 32. The central portions and the outer ends of transverse members 33, 34, 35, 36 are horizontal. The longitudinal members 37 are fixed to the central depressed horizontal portions of said members 33, 34, 35, 36. The longitudinal members 32 are fixed on the outer ends of said transverse members. Also fixed on the outer end horizontal portions of said transverse members are longitudinal angle members 38 symmetrical with respect to and coextensive with said longitudinal members 32. Both members 32 and 38 extend beyond transverse member 34. The extending portions of said members 32, 38 are interconnected by a pair of parallel, symmetrical straight transverse angle mem-

bers 39, 40. The vertical flanges of angle members 32 are cut away to accommodate angle members 39, 40.

The undersides of the central, horizontal portions of transverse members 35, 36 are interconnected by a pair of parallel straight longitudinal angle members 42 somewhat further spaced apart than members 37. Members 42 carry a transverse pin 43. A connecting link 44 interconnects a pin 45 at the outer end of the crank arm, with said pin 43.

Diverging arms 46 are riveted to link 44 as by rivets 47, spread out and pivotally engage said pin 43 at their forward ends, as shown in FIG. 5. Spaced sleeves 48 on pin 43 are interposed between members 46 and the connecting link 44.

Roller or caster assemblies 9 50 at the undersides of the ends of frame members 32 have rollers casters or wheels 51 resting on rails 16.

Thus, as the motor operates, the crank 25 will reciprocate the carriage back and forth in an inclined direction, to move said carriage rearwardly and upwardly and forwardly and downwardly, for the purposes hereinafter appearing.

The apparatus is provided with a flexible platform 55 on which the person to be massaged can lie. Said platform comprises a central sheet 56 such as canvas, which may be contoured longitudinally and transversely to correspond generally to the shape of an average human adult body. stitched to side edges of sheet 56, as at 57, are side aprons 58.

Fixed to the upper edges of the side walls 15 of the stand are top ledges 60 having inner forwardly converging edges 61. These ledges run the entire length of the stand and rest, at their rear ends of the top edge of rear wall 14, and at their front ends, on the upper edge of front wall 13, thereby reinforcing the stand. The side aprons 58 are disposed below the ledges 60. At their front ends ledges 60 have parallel inner edges 62.

Means is provided to resiliently suspend the platform at the top of the stand. To this end, said side flaps or aprons 58 have lines of spaced grommets 64 adjacent to outer edges 58a of the aprons or flaps 58. Fixed to the undersides of the ledges 60 and extending downwardly therefrom are lines of eye-fittings 67 staggered with respect to said grommets 69. At each side of the apparatus, a cord 68 alternately passes through the eyes 67 and grommets 64. One end of each cord 68 is connected by a coil tension spring 69 to an anchoring hook or eye 70 at the upper end of the front wall. The other end of each cord 68 is anchored to a hook or eye 71 attached to the underside of shelf 60 and located near the head end of the stand. The cords 68 thus pull the flaps or aprons and central portion 56 of the platform outwardly toward flat condition.

The foot end of platform portion 56 is connected to the upper end of front wall 13 by a cord 75 which passes through grommets 76 in the platform and through eyes 77 fixed to the inside of the upper end of said front wall.

Stitched or otherwise, connected to the head end of platform portion 56, as at 78, is a T-shaped head and neck rest piece 79 of canvas having a narrowed, central, head rest portion 80. This head rest portion 80 is resiliently attached to the ledge 60 by coil tension springs 81. Portion 79 of the platform has grommets 82. A cord 83 passes through the grommets 82 and

beneath the central portion of member 79, and its ends are connected to the ledges 60 by coil tension springs 85.

The central portion 56 of the platform has, at each side where it is stitched to the aprons 58 by lines of stitching 57, flaps 58a formed with pairs of closely spaced grommets 85 and with end grommets 86. Cords 87 are woven in and out of the grommets 85, 86. At the foot end of the stand, each cord 87 is anchored through a coil tension spring 89, to a hook on eye 90 on the ledge 60. The other end of each cord 87 passes around a pulley 91 attached to an anchoring eye 92, and is connected to a coil tension spring 93 connected to platform portion 79.

The entire platform is thus spring suspended and biased toward flat tensioned condition.

A belt 95 attached to the platform, as at 96, 97, may be encircled around the waistline of the user, as shown in FIG. 2.

Attached to the foot ends of the ledges 60 adjacent inner edges 62 thereof, are longitudinal ratchets 100. A rod 101 placed in a pair of aligned notches in the ratchets, acts as a foot support and can be adjusted to accommodate the user, depending upon his length.

Pivoted to the carriage 30 are a pair of rocker members or levers 110. One of these is shown in FIG. 8. Each rocker member comprise a pair of similar symmetrical rocker arms 111 attached together in spaced relation by bolts 112. Spacer sleeves 113 on said bolts keep the arms 111 in spaced relation. The arms 111 have rear upwardly curved ends 114 and upwardly inclined forward ends 115. Nearer to their forward than to their rear ends, said members 110 are pivoted by transverse pins 116 to vertical flanges of angle members 37. The forward ends of rockers 110 are connected by coil tension springs 120 to the lower ends of arms 121 fixed to angle members 37, and extending downwardly therefrom. Springs 120 tend to rotate the rockers 110 in clockwise directions about pins 116 to bias their rear ends upwardly.

Pivoted to the rear rocker 110 about a pivot pin 124 at its rear end, and received between the members 111, is a rocker or lever 125 curved upwardly at its ends. Pivoted to the ends of rocker 125 are a pair of rocker arms 126 carrying pairs of rollers 127 at each of its ends. Rollers 127 contact the underside of the platform, so that as the carriage is reciprocated, the person lying on the platform is massaged. Rocker arms 126 are attached together by screws 126a in spaced relation (FIG. 7), and rock in unison. Rockers 126 and their rollers 127 comprise a unit 128. Unit 128 is connected to additional units 128, 128 on the opposite sides thereof, by means of hook connectors 129 or by any other suitable flexible connectors to permit the platform to be bellied or curved down in the middle as shown in FIG. 6. The end units 128 are connected to upper ends of levers 130 pivoted as at 131, at intermediate portions thereof to transverse bars 132 fixed to angle members 32, 38. The lower ends of levers 130 are connected by springs 133 to angle members 37. Springs 133 are coil tension springs and bias the tandem articulated units 128 to horizontal position. All the rollers 127 resiliently press up against the underside of the platform and reciprocate with the carriage to massage the user of the machine or apparatus.

Pivoted to the forward end of rocker 125 is a line of rocker units 140 same as at its forward end. These are the same as described above for units 128. They are also resiliently tensioned by means shown in FIG. 6.

The more forward rocker 110 is pivoted at its rear end, as at 150, to a rocking member 151. The rear end of rocking member 151 is pivotally interconnected to link 125 by a pair of similar spaced links 152. A flexible transverse cord 155 (FIGS. 3 and 4) passes through openings in the pivot 157 which pivotally connects link 151 with links 152. The outer ends of cord 155 are attached to upper ends of levers 158.

Levers 158 are pivoted mediately the ends thereof, as at 159 to cross-pieces 160 fixed between angle members 32, 38. The lower ends of levers 158 are connected by coil tension springs 160 to angle members 37. Thus, springs 160 tend to stretch out or straighten cord 155. On the cord 155 are a plurality of rollers 161 contacting the underside of the platform to massage the person lying on said platform. Between rollers 161 are spacer sleeves 161a as shown in FIG. 9.

The forward end of rocker link 151 is pivoted as by pivot 165 to a pair of links 166 which are pivoted as by pivot 167 to a link 168, which, in turn, is pivoted, as by pivot 169, to a link 170. On pivots 165, 169, and on the forward end 171 of link 170 are cords 155 similar to cord 155 described above. Said cords are connected at their ends to levers 158 which are pivoted, as at 159, to pieces 160 supported on angle members 32, 38. The lower ends of said levers are connected by springs 160 to angle members 37. On such cords 155 are mounted rockers 161 in the same manner as shown in FIG. 3, except that on the cords 155 on pivots 157, 165, there are five rollers 161 on each side of the center, whereas on the cords 155 passing through pivots 167, 169 and 171 there are only four rollers 161 on each side of the center as shown in FIG. 4.

Cords 155 on pivot 157 are connected to a pair of units 140, on opposite sides of the middle unit 140, by links 180.

To the forward end of link 125 is pivoted, as at 185, a link 186. At the forward end of link 186 is mounted another transverse flexible cord 155 carrying rollers 161 and connected to spring biased levers 158. As shown in FIG. 4, there are five rollers 161 on each side of the middle of this cord 155.

To link 186 is pivoted a link 190 carrying a short cord 191, attached at its ends to levers 192 pivoted at intermediate points 193 to supports between angle members 39, 40. The lower ends of the levers 192 are biased toward each other by coil tension springs in the same manner as springs 133 draw levers 130.

There are two rollers 195 on each side of the center of cord 191.

Platform 55 may be padded if desired to accommodate sensitive people, as shown at 155a in FIG. 1.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative.

I claim:

1. Massaging apparatus comprising, a stand, a flexible platform, means for mounting said platform on a stand, so that a person to be massaged may lie thereon, rail means fixed to the stand, a carriage, means to mount said carriage for reciprocation on said rail means and beneath said platform, means to reciprocate said carriage, and massage means mounted on said carriage for reciprocation therewith, and rubbing against the underside of said platform to press said platform against the person lying on the platform, as said carriage is being reciprocated, said massage means comprising at least one transverse flexible support means including contact members arranged in tandem, and means to bias said flexible support means including members toward horizontal position.

2. The combination of claim 1, said rail means, carriage and platform being inclined upwardly and toward the head end of the stand.

3. The combination of claim 1, and foot contact means on the stand, adjustable lengthwise of the stand, and against which the feet of said person lying on the platform may press.

4. The combination of claim 1, said means to reciprocate said carriage comprising an electric motor and crank means connecting the drive shaft of said motor to said carriage.

5. The combination of claim 1, said massage means comprising means pivoted to said carriage, and contact means on said pivoted means engaging the underside of said platform.

6. The combination of claim 5, said contact means comprising roller means.

7. The combination of claim 6, and resilient means to move said pivoted means.

8. The combination of claim 1, and means for resiliently mounting said massage means on said carriage for up and down movement relative to said carriage, as said carriage is reciprocated.

9. The combination of claim 1, and means to resiliently press at least some of said members, upwardly.

10. The combination of claim 1, said rail means, carriage and platform being inclined upwardly and toward the head end of the stand, and foot contact means adjustably mounted on said stand and against which the feet of the person lying on the platform may press.

11. The combination of claim 10, and means for resiliently mounting said massage means on said carriage for up and down movement relative to said carriage, as said carriage is reciprocated.

12. The combination of claim 11, said massage means comprising a plurality of flexibly articulated rollers in tandem, and means to resiliently pull the ends of said articulated rollers outwardly.

13. The combination of claim 1, said massage means comprising a first lever pivoted to the carriage, resilient means to rotate the first lever, a second lever pivoted to the first lever, and rollers mounted on said second lever.

14. The combination of claim 1, said means for mounting said platform on said stand comprising resilient means.

15. Massaging apparatus comprising, a stand, a flexible platform, said platform comprising a central longitudinal sheet, aprons attached to the sides of said cen-

tral sheet, means for mounting said platform on the stand, so that a person to be massaged may lie thereon, said means to mount said platform on said stand comprising resilient means connecting said central sheet with said stand, and resilient means connecting said side aprons to said stand, rail means fixed to the stand, a carriage, means to mount said carriage for reciprocation on said rail means and beneath said platform, means to reciprocate said carriage, and massage means mounted on said carriage for reciprocation therewith and rubbing against the underside of said platform to press said platform against the person lying on the platform, as said carriage is being reciprocated.

16. The combination of claim 15, said platform further comprising a head rest attached to one end of said central portion and resilient means to connect said head rest portion to said stand.

17. The combination of claim 1, said platform being contoured to the shape of a person's body.

18. The combination of claim 17, said platform being

padded in several places.

19. Massaging apparatus comprising, a stand, a flexible platform, means for mounting said platform on the stand, so that a person to be massaged may lie thereon, rail means fixed to the stand, a carriage, a first lever pivoted to said carriage, spring means to rotate said first lever, a second lever pivoted to said first lever, third and fourth levers pivoted to said second lever and rollers mounted on said third and fourth levers, means to mount said carriage for reciprocation on said rail means and beneath said platform, means to reciprocate said carriage, and massage means mounted on said carriage for reciprocation therewith, and rubbing against the underside of said platform to press said platform against the person lying on the platform, as said carriage is being reciprocated.

20. The combination of claim 1 wherein said flexible line is of interconnected line means.

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