Feb. 8, 1949. D. M. ACKERMAN 2,461,102

POSTURE SYSTEM

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Fig. 7

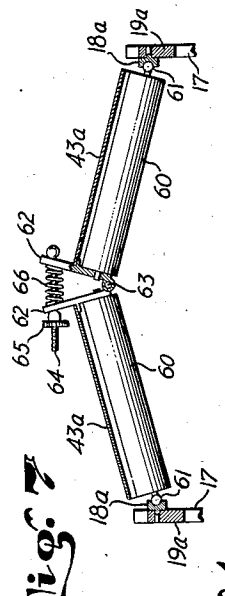


Fig. 1

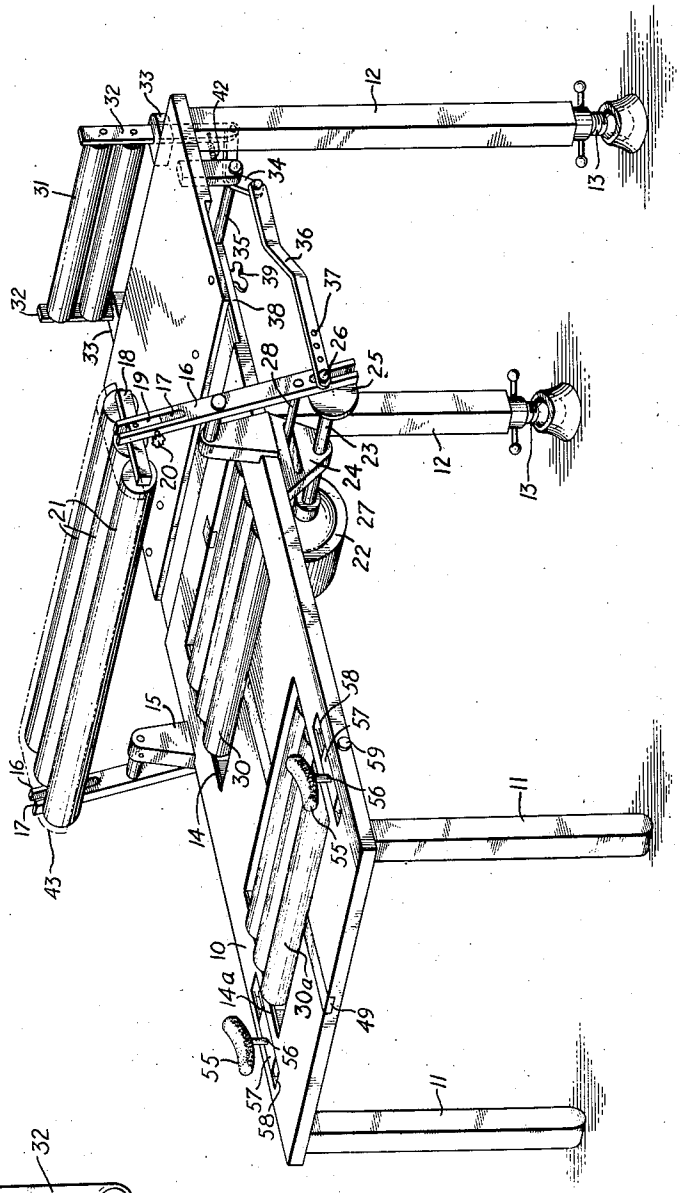
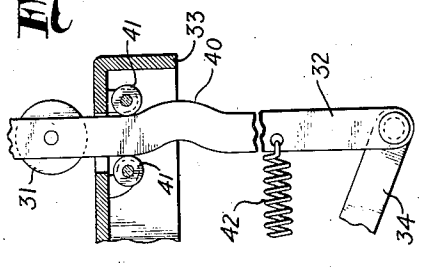


Fig. 2



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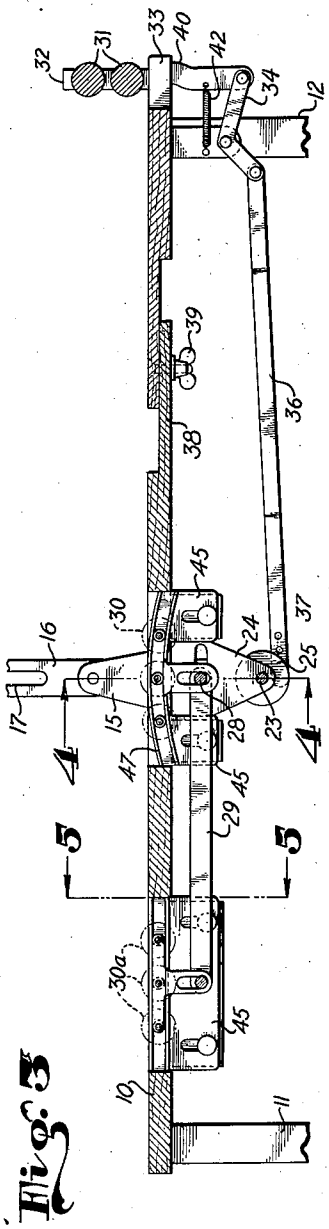


Fig. 3

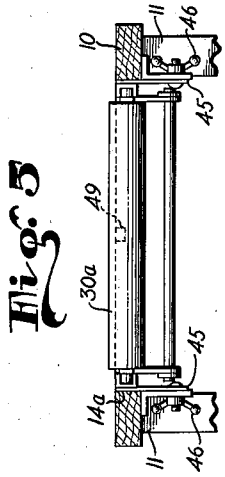


Fig. 5

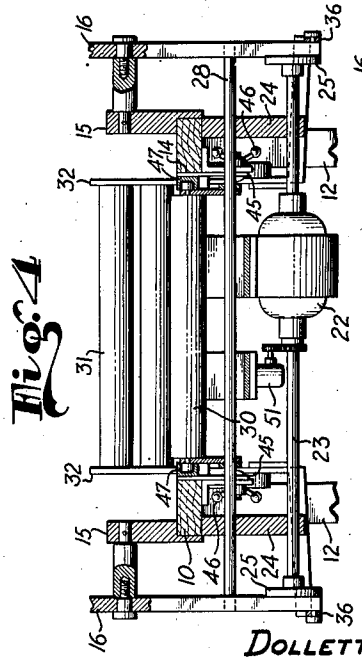


Fig. 4

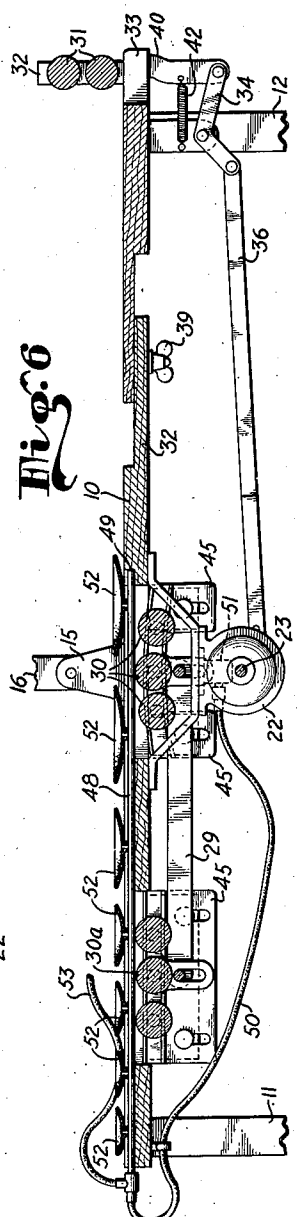


Fig. 6

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POSTURE SYSTEM

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Application December 21, 1944, Serial No. 569,114

4 Claims. (Cl. 128—57)

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This invention relates to body corrective apparatus and more easily to an improved posture system and means for correcting posture.

An object of the invention is to provide a simple, practical and efficient means for correcting and improving posture.

Another object of the invention is to provide a posture correcting apparatus adapted for acting upon several parts of the body simultaneously.

A further object of the invention is to provide posture correction apparatus of the character described which is simple of manufacture and adapted for adjustability for use with persons of varying weight and height.

Additional objects will appear and be brought out more fully in the following specification, reference being had to the accompanying drawing wherein,

Fig. 1 is a perspective view of a table embodying features of my invention.

Fig. 2 is a fragmentary view partly in section showing the foot roller mounting features.

Fig. 3 is a sectional elevation of a modified form of treatment table.

Fig. 4 is an enlarged sectional view taken along the line 4—4 of Fig. 3.

Fig. 5 is a sectional view taken along the line 5—5 of Fig. 3.

Fig. 6 is a view similar to Fig. 3 showing the vacuum cup features of the invention applied thereto.

Fig. 7 is a partial view showing a modified or substituted form of roller mounting.

Referring more particularly to the drawings my invention comprises essentially a table 10 on which the person to be treated may be placed, the table having front legs 11 and rear legs 12, the rear legs being longer than the front legs to provide the table with an inclination such that the feet of the person are somewhat higher than the head. Legs 11 or 12 or both may be provided with means 13 for adjustment in length in any well-known manner if desired. Table 10 is provided with a central cut-out portion 14 and a cut-out portion 14a and a pair of brackets 15 which provide pivot supports for a pair of rock-arms 16 positioned on either side of the table. Other equivalent adjusting and locking means may be provided if desired. A plurality of rollers 21 are mounted between bearing blocks 18, it being understood that rollers 21 may be of any suitable construction, such as soft or hard rubber, sponge rubber or plastic or the equivalent.

A motor 22 is suitably mounted under table

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10 and has a drive shaft 23, a bearing 24 therefor being provided and secured to table 10. A crank disc 25 is mounted on the end of shaft 23 and is provided with a crank pin 26 which engages a slot in the lower end of rock-arms 16 by which the rock-arms are rocked when the motor is run in the conventional manner. Bearing member 24 is slotted at 27, and a rod 28 extends between each rock-arm 16 and a bearing block 29 slidably mounted adjacent the side edges of aperture 14 and providing mounting for a plurality of rollers 30 and 30a in cut-out portions 14 and 14a substantially similar to rollers 21.

A plurality of similar rollers 31 are mounted between pairs of bars 32 which are vertically reciprocable in guide blocks 33 secured adjacent the end of table 10. A pair of rock levers 34 are mounted on a shaft 35 under table 10 and rocked by link 36 connected to crank pin 26 on crank disc 25. Bars 32 are curved at 40 and a pair of rollers 41 are positioned as shown in Fig. 2. A spring 42 is connected to bars 32 so that rollers 31 are moved forwardly and backwardly as they are reciprocated vertically by rock levers 34. A suitable hood or cover 43 may be provided over rollers 21 to prevent accidental injurious contact therewith. A table 10 is provided with extension means 38 which may be suitably secured by lock screws 39 by which the length of the table may be extended to accommodate persons of different height.

From the foregoing description the operation of the invention should be apparent. The running of motor 22 turns crank disc 25 and rocks rock-arms 16 which carry rollers 21, 30 and 30a forwardly and backwardly in such manner that when rollers 21 are being moved forwardly rollers 30 are being moved rearwardly at the same time rollers 31 are reciprocated forwardly, backwardly, upwardly and downwardly, as should be clear.

The person being treated will lie on the table with the hands grasping strap 44 and the feet against rollers 31. When the rollers are actuated in the manner specified rollers 21, 30 and 30a will roll forwardly and backwardly along the front and back torsal portions and shoulders of the body and the rollers 31 will flex the feet. As stated herein above the person to be treated may lie on the table, and the adjustment of blocks 19 in slots 17 will provide a varying degree of manipulatory pressure as adjusted to persons of varying weight. Rollers 21 may be removed from rock-arms 16 by loosening of screws 20 and the removal of blocks 19 to permit easy positioning of the patient on the table.

In the Figs. 3 to 6 I show modified features of the invention. In these figures the rollers **30** and **30a** are mounted in brackets **45** which are slidable vertically so as to be dropped below the top of the table, the brackets being provided with locking screws **46** which hold the brackets in upper position when so operated. Rollers 30 are mounted in a curved track **47** which moves the rollers in a curved path such as to follow the small of the back, and thus to produce a maximum effect without injury to the patient.

In Fig. 6 I show further modified features which comprises a frame **48** which is adapted to be placed in a longitudinal recess **49** in the top of the table frame **48** having a tubular passage for connection to a vacuum tube **50** which is connected to a vacuum pump **51** suitably driven by motor **22**. A plurality of shallow vacuum cups **52** are connected to frame **48**, cups **52** being of progressively smaller diameter toward the head end of the table, the arrangement being such that the cups **52** lie under and along the back of the person being treated. A tube **53** is suitably connected to vacuum line **50** and has an open end **53** which can be intermittently closed with a finger to provide a fluctuating vacuum effect at the cups **52** which intermittent or pulsating vacuum effect is most desirable for satisfactory actuation of the invention.

In Fig. 7 I show a modified or substituted form of roller mounting. In this figure a plurality of rollers **60** are provided with ball end shafts **61** which are carried in bearing blocks **18a** for pivotal mounting in trunnion blocks **19a** adapted to be secured at the slotted ends **17** of rock arms **16**, rollers **21** and bearing blocks **18** being removed and replaced by rollers **60** and bearing blocks **18a** when the rollers of the form of Fig. 7 are to be used on the table. A pair of bracket pieces **62** pivotally connected together at **63** provide mounting for the inner ends of the shafts of rollers **60**, and a clamp screw **64** provided with an adjusting nut **65** is secured to the ends of pieces **62** by which said pieces may be drawn together and change the angular relation of rollers **60**. A spring **66** is mounted on bolt **64** and serves to separate pieces **62** and raise the inner ends of rollers **62** so that the rollers have a variable angular relation to provide rolling contact to conform somewhat to the figure of the person to be treated. I provide a hood or cover **43a** over rollers **60** and similar to hood **43**.

Table **10** is provided with a pair of arm rests **55**, formed substantially as shown and preferably of resilient material or padded, the rests being mounted on members **56** as secured to adjustably positioned blocks **57** slidably mounted in slots **58** in table **10** and secured in adjusted positions by a screw type or plunger holding pin **59**. Arm rests **55** serve to render the person to be treated in a more comfortable position when on the table.

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

1. In a posture system, a table for the support of a person to be treated thereon and having apertures therein, a plurality of transverse rollers in said apertures, a plurality of transverse rollers spaced above said table, said rollers being mounted to be longitudinally reciprocable relative to the length of the table, and means to reciprocate said rollers, said last named rollers being moved forwardly when said first named rollers are moved backwardly and vice versa, said means including a pair of rock arms for supporting said last named rollers.

2. In a posture system, a table for the support of a person to be treated thereon and having apertures therein, a plurality of transverse rollers in said apertures, a plurality of transverse rollers spaced above said table, said rollers being mounted to be longitudinally reciprocable relative to the length of the table, and means to reciprocate said rollers, said last named rollers being moved forwardly when said first named rollers are moved backwardly and vice versa, said means including a pair of rock arms for supporting said last named rollers and engageable with the supports of said first named rollers.

3. In a posture system, a table for the support of a person to be treated thereon and having apertures therein, a plurality of transverse rollers in said apertures, a plurality of transverse rollers spaced above said table, said rollers being mounted to be longitudinally reciprocable relative to the length of the table and a plurality of vertically movable rollers adapted to engage the feet.

4. In a posture system, a table for the support of a person to be treated thereon and having apertures therein, a plurality of transverse rollers in said apertures, a plurality of transverse rollers spaced above said table, said rollers being mounted to be longitudinally reciprocable relative to the length of the table and a plurality of horizontally and vertically movable rollers adapted to engage the feet.

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