Oct. 8, 1940. C. H. KAUFFMAN 2,217,445

DEVICE FOR AIDING OSTEOPATHIC MANIPULATORS

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Fig. 2.

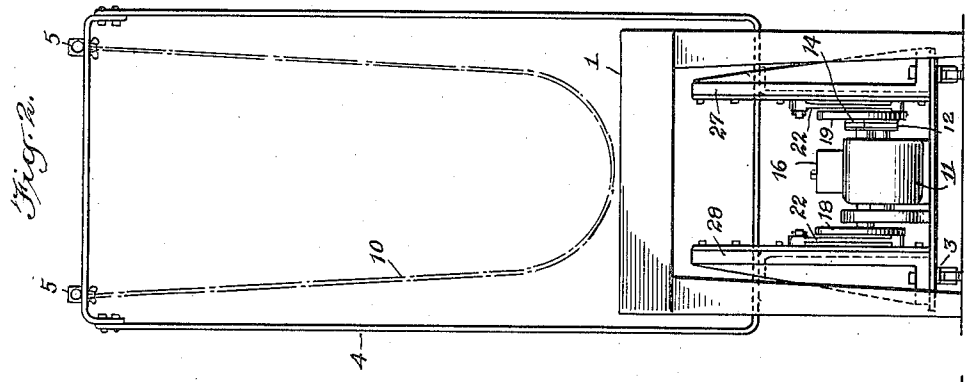
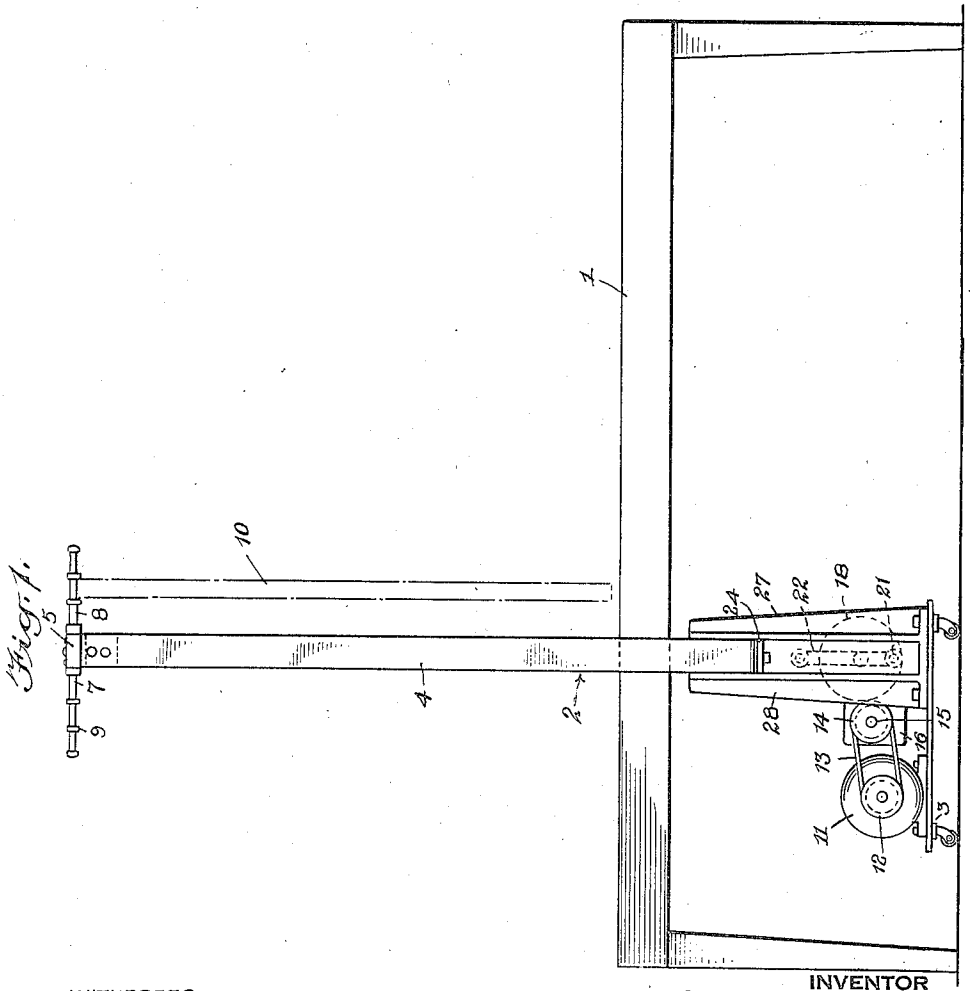



Fig. 1.




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DEVICE FOR AIDING OSTEOPATHIC MANIPULATORS

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Fig. 4.

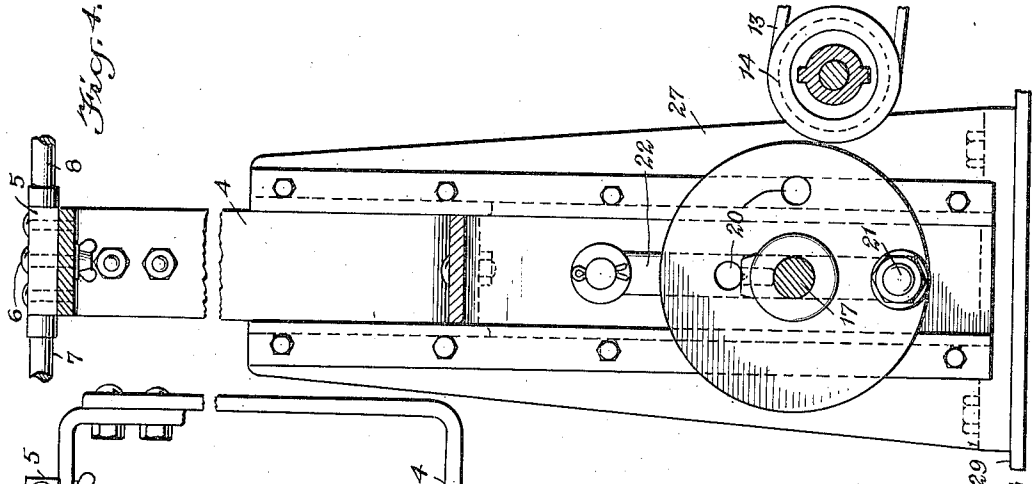
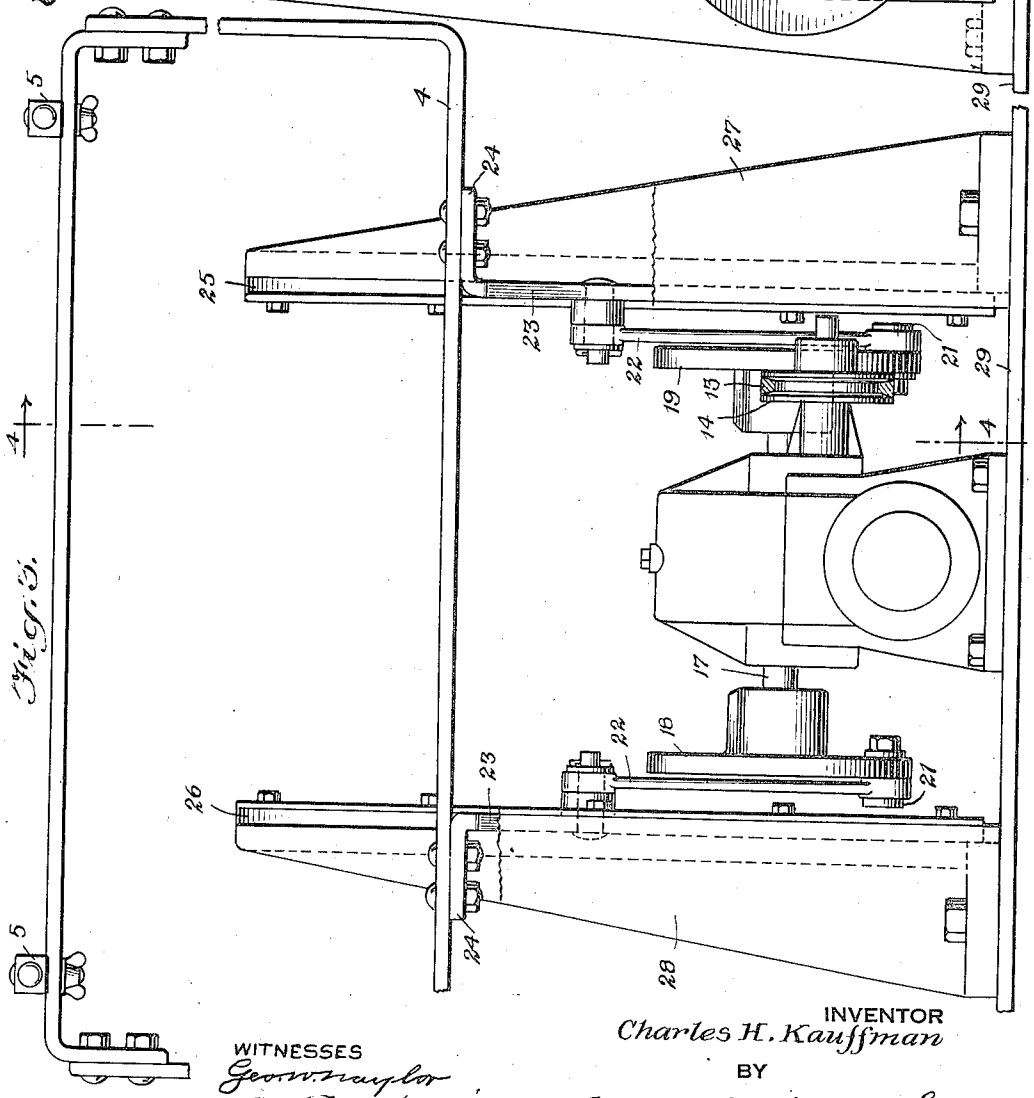



Fig. 5.




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Filed May 25, 1939 3 Sheets-Sheet 3

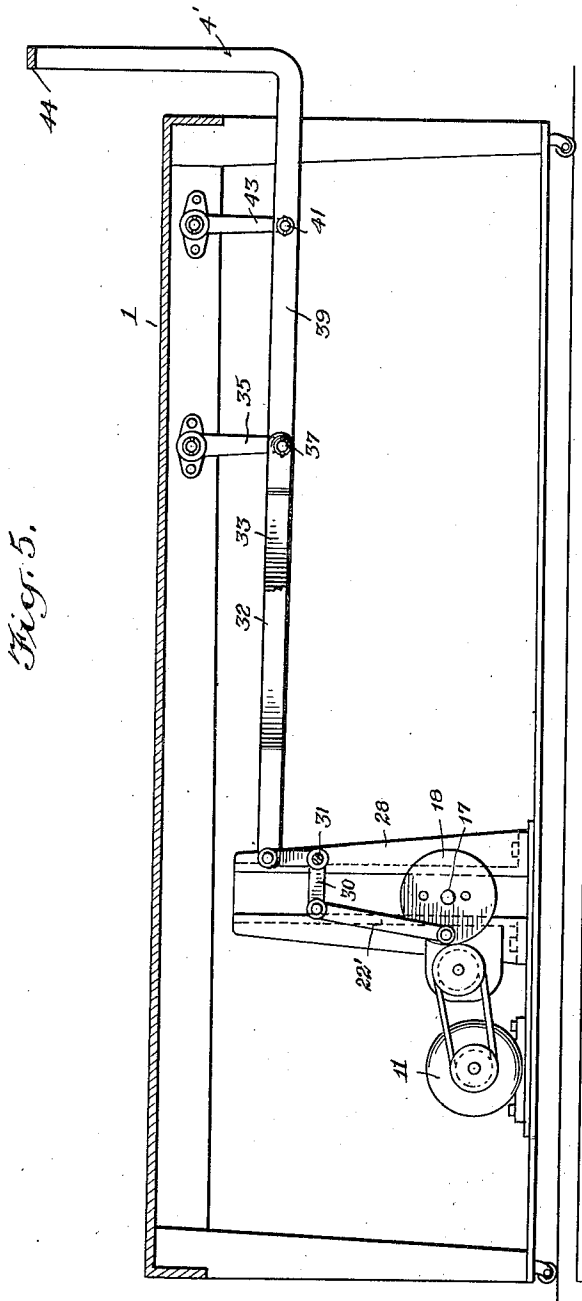



Fig. 5.

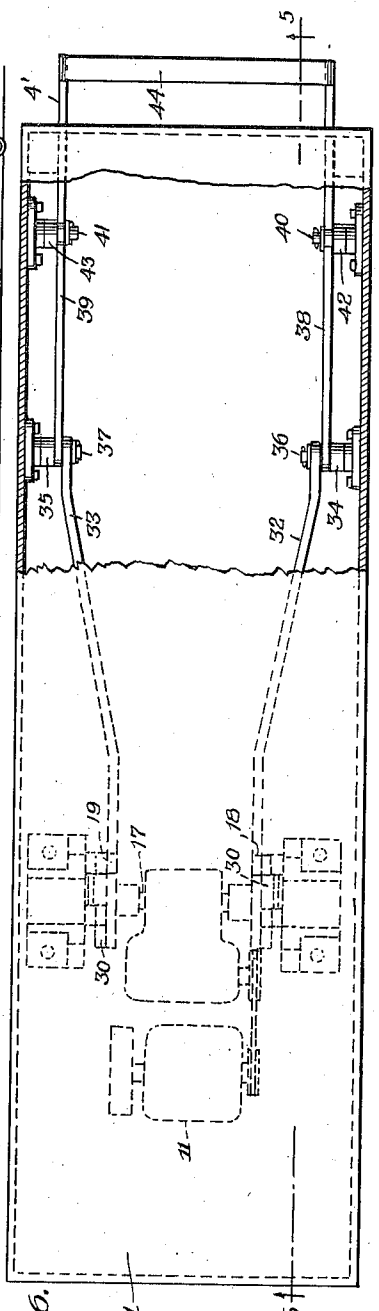



Fig. 6.

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# UNITED STATES PATENT OFFICE

2,217,445

## DEVICE FOR AIDING OSTEOPATHIC MANIPULATORS

Charles H. Kauffman, Danbury, Conn., assignor of one-half to Jurgen P. Lange, Redding, Conn.

Application May 25, 1939, Serial No. 275,661

1 Claim. (Cl. 128—63)

This invention relates to a device for aiding osteopathic manipulation and has for an object to provide an improved construction wherein means are presented to lift and exercise different parts of the body by movement in various directions.

Another object of the invention is to provide a device which may be used in connection with an osteopathic table or stool and caused to provide a desired movement of different parts of the body of a patient.

A further object of the invention is to provide a device for manipulating different parts of the body of a patient and move the same vertically, horizontally, or at a desired angle.

A still further object more specifically is the provision of a manipulator having a pair of power-driven reciprocating bars and a frame connected with the bars and so arranged that it may be moved at an angle vertically or horizontally according to the treatment desired.

In the accompanying drawings—

Fig. 1 is an edge view of a device embodying the invention, the same being shown in association with an osteopathic table;

Fig. 2 is an end view of the structure shown in Fig. 1;

Fig. 3 is an enlarged view of the manipulator shown in Fig. 2;

Fig. 4 is a sectional view through Fig. 3 approximately on the line 4—4;

Fig. 5 is a longitudinal vertical sectional view through an osteopathic table and showing in elevation a modified form of the invention to that illustrated in Fig. 1, the section being taken on the line 5—5 of Fig. 6;

Fig. 6 is a plan view of the structure shown in Fig. 5, part of the table being broken away.

Referring to the accompanying drawings by numerals, 1 indicates a standard osteopathic table which may be used with the manipulator 2. If desired, the machine 2 could be used with a stool or other support without departing from the spirit of the invention. In a device constructed in accordance with the present invention means have been provided whereby the parts of the body may be moved back and forth in various directions to secure a desired exercise or manipulation for certain results according to instructions of the doctor.

As shown in Figs. 1 to 4 inclusive, the structure has been positioned to provide an up-and-down movement. The manipulator 2 may rest directly on the floor or may have suitable castors 3 for supporting the same whereby it may be easily moved along the table 1 so as to be in position to exercise any part of the body as desired. The device 2 is provided with a rectangular frame 4 having fittings 5 secured to the top thereof in any suitable way, as for instance by a clamping bolt 6. The fittings 5 carry, respectively, arms 7 and 8 which may have enlargements 9 thereon so that one or more straps 10 may be positioned along these arms. It will be understood that a strap 10 is adapted to be placed under the body, or under an arm or a leg for raising and allowing the same to drop down by gravity. If desired, suitable straps or tying means could be arranged with the strap 10 for connecting the strap 10 with the part of the body to be manipulated.

When the device is in operation the frame 4 moved upwardly or downwardly at a desired rate, as for instance, approximately twelve times per minute. This rate, of course, may be changed as desired by varying the action of the prime mover 11. The prime mover 11 is preferably an electric motor and actuates a pulley 12 on which a belt 13 is mounted. The belt 13, in turn, actuates a pulley 14 secured to a shaft 15 connected with a series of reducing gears 16, said gears in turn being connected with a shaft 17 to which disks 18 and 19 are rigidly secured. By this system of reduction, the respective disks 18 and 19 rotate much slower than the motor 11, whereby even though the motor may rotate twelve hundred revolutions per minute, the disks 18 and 19 will rotate at a speed to move the frame 4 upwardly and downwardly at approximately twelve times per minute. Each of the disks 18 and 19 is provided with a number of apertures 20, there being one near the periphery, one near the center, and one at an intermediate point. Each of these disks carries a wrist pin 21, which is connected with a connecting rod 22 and the connecting rod in turn is connected with a slide 23. As shown in Fig. 3, there are two slides 23, two connecting rods 22 and two wrist pins 21. The respective slides 23 are each provided with a bent-over end 24 bolted or riveted to the lower end of the frame 4.

When the wrist pin 21 is arranged as shown in Fig. 4 the slides 23 and frame 4 will be given their greatest movement. If the wrist pin 21 were shifted to the intermediate aperture 20 the reciprocation would be less and if it were shifted to the aperture nearest the center of the disk the distance of the reciprocation would be the least though the speed would be the same.

In actual use, after the patient has been placed on the table 1, straps 10, or other straps, are

connected with the desired parts of the body to be manipulated. When this has been done power is turned on to the motor 11 and the frame 4 will then begin to move upwardly and downwardly. It will be understood that if considerable movement is desired wrist pin 21 will be arranged as shown in Fig. 4, but if only a slight movement is desired the wrist pin will be shifted to the aperture 20 nearest the center of the disk. From Figs. 3 and 4 it will also be seen that the slides 23 are mounted in suitable slideways 25 and 26 formed in standards 27 and 28, which standards are bolted or otherwise rigidly secured to the base plate 29. The castors 3 are preferably connected with the base plate 29 though, if desired, the castors could be eliminated. Some times it might be desirable to secure back and forth movement at an angle to the vertical and when this is the case the base plate 29 is tilted to the desired angle and, consequently, the frame 4 will move back and forth at the same angle.

In case a horizontal movement is desired the modified structure shown in Figs. 5 and 6 is used. In this form of the invention the same reference numerals are used except for the modified parts. As shown particularly in Fig. 5, the respective connecting rods 22' are connected to bell crank levers 30 pivotally mounted at 31 on the respective standards 27 and 28. Links 32 and 33 are connected to the respective bell crank levers 30 and also pivotally connected to the respective swinging depending arms 34 and 35. Suitable journal pins 36 and 37 are used for pivotally connecting the links 32 and 33 to arms 34 and 35 and also to the respective ends of the bars 38 and 39 forming part of a frame 4'. Bars 38 and 39 are also pivotally connected at 40 and 41 to the respective depending links 42 and 43. The frame 4' at the end projecting beyond the table 1 is bent upwardly and is provided with a cross bar 44 to which straps, similar to strap 10, or other fastening means may be connected. When the motor 11 is functioning, the bar 44 will move back and forth in a horizontal direction.

If desired, the modified structure shown in Fig. 5 and the structure shown in Fig. 1 could be used at the same time on the same patient.

I claim:

A device of the character described adapted to be used with a table including a base, a pair of standards carried by said base, said standards being provided with guideways, a sliding bar for each standard arranged in the respective guideways, a connecting rod for each bar, a disk for each of said connecting rods, each of said disks having apertures at different distances from the center, a wrist pin for each of said connecting rods adapted to be positioned in any desired order in the respective apertures of the disk so as to vary the throw of the connecting rods as the disks rotate, means for pivotally connecting one end of the respective wrist pins to the respective bars, means for rotating the disks at the same speed, and a comparatively rigid rectangular lifting frame having one side connected to said reciprocating bars, said frame encircling said table, a strap-fastening member connected to the opposite side of said lifting frame to that secured to said reciprocating bars and a strap secured to said strap-fastening member, said strap being adapted to raise and lower a patient resting on said table.

CHARLES H. KAUFFMAN.