

Jan. 9, 1934.

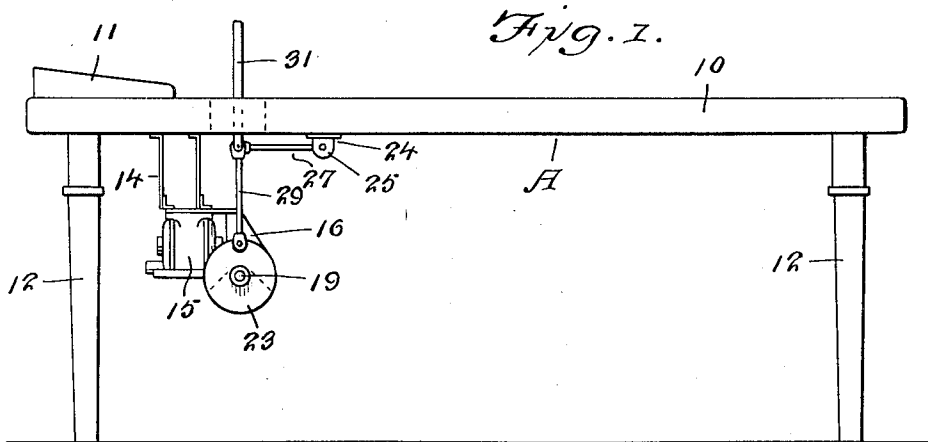
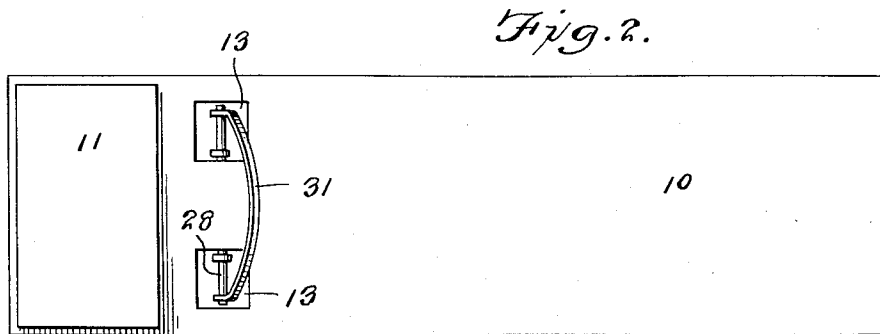
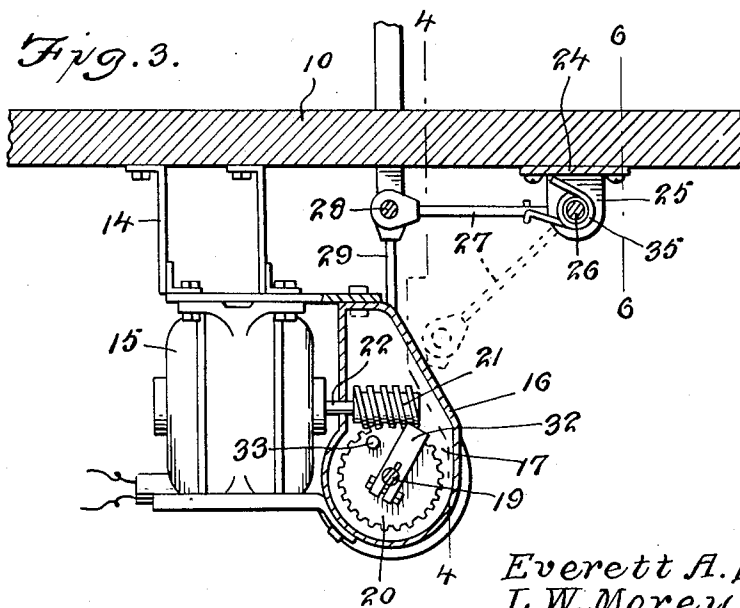
E. A. BUCK ET AL

1,942,914

THERAPEUTIC APPARATUS

Filed Feb. 6, 1933

2 Sheets-Sheet 1



Everett A. Buck
L. W. Morey

INVENTOR

BY Victor J. Evans & Co.

ATTORNEY

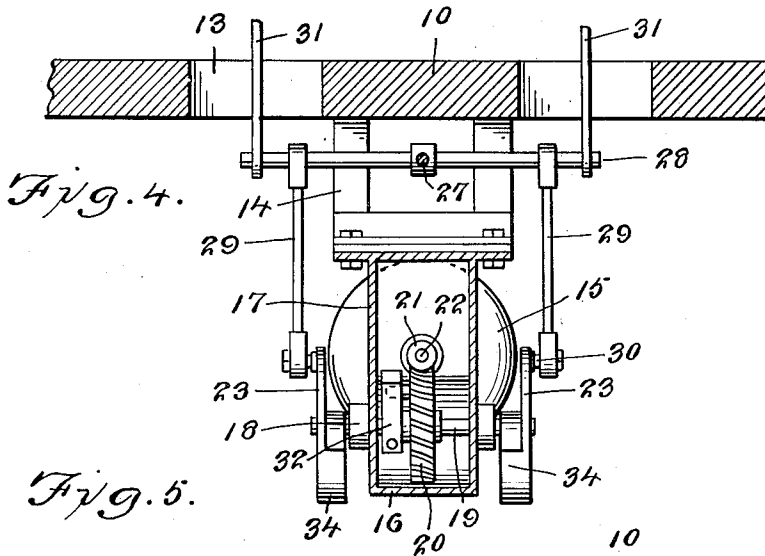
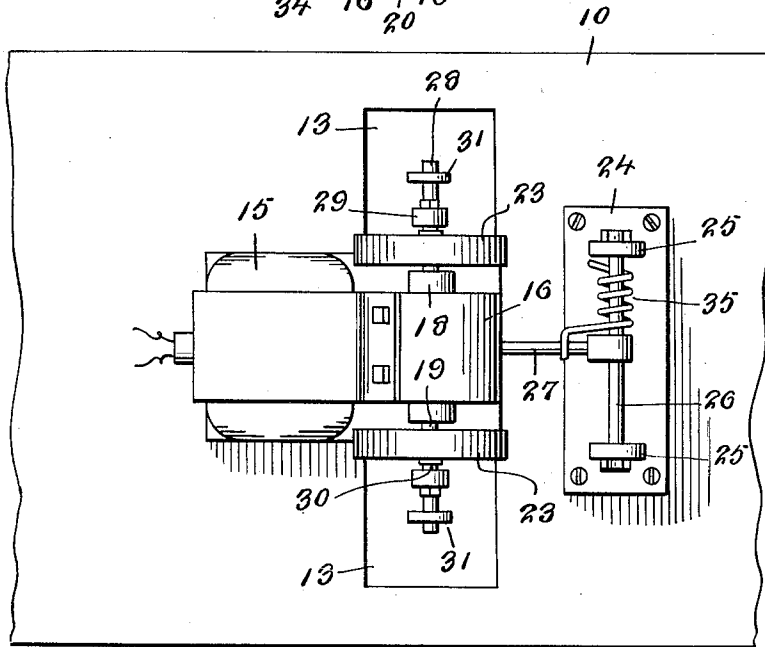
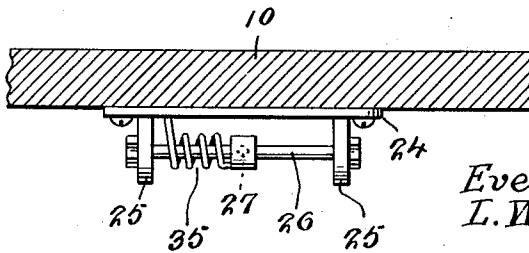
Jan. 9, 1934.

E. A. BUCK ET AL
THERAPEUTIC APPARATUS

1,942,914

Filed Feb. 6, 1933

2 Sheets-Sheet 2



Everett A. Buck
L. W. Morey

INVENTOR

BY Victor J. Evans & Co.

ATTORNEY

UNITED STATES PATENT OFFICE

1,942,914

THERAPEUTIC APPARATUS

Everett A. Buck and Lloyd W. Morey,
Millinocket, Maine,

Application February 6, 1933. Serial No. 655,522

4 Claims. (Cl. 128—33)

The invention relates to a therapeutic apparatus and more especially to a pulmonary or massaging device.

The primary object of the invention is the provision of an apparatus of this character, wherein a person suffering with a physical defect or body ailments may be subjected to the action of the apparatus so as to promote the circulation of the blood and lymphatic fluids of the body for therapeutic purposes, the apparatus being novel in its construction and is motor driven for the operation thereof.

Another object of the invention is the provision of an apparatus of this character wherein a table or support is arranged with a headrest so that a person may lie thereon in a position for the action of the apparatus, whereby a pulling or drawing action may be had upon the body of such person to effect an increase of the normal flow or movement of the lymph from the tissues and organs of the body into the blood stream and organs of the body so that under heart action a supply of fresh nutritive lymph will be set up in the blood stream and organs or tissues of the body.

A further object of the invention is the provision of an apparatus of this character, wherein the movement to the applicator is imparted in a novel manner so that the work of the applicator will be effective for the treatment of a patient subjected thereto.

A still further object of the invention is the provision of an apparatus of this character which is simple in construction, thoroughly reliable and efficient in its operation, automatic in the working thereof, and inexpensive to manufacture and install.

With these and other objects in view, the invention consists in the features of construction, combination and arrangement of parts as will be hereinafter more fully described in detail, illustrated in the accompanying drawings, which disclose the preferred embodiment of the invention, and pointed out in the claims hereunto appended.

In the accompanying drawings:

Figure 1 is a side elevation of an apparatus constructed in accordance with the invention.

Figure 2 is a top plan view thereof.

Figure 3 is a fragmentary vertical longitudinal sectional view.

Figure 4 is a fragmentary sectional view on the line 4—4 of Figure 3.

Figure 5 is a bottom plan view of the assembly shown in Figure 3.

Figure 6 is a sectional view on the line 6—6 of Figure 3.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring to the drawings in detail, A designates generally a table having the top 10 of a size and shape to permit a person to recline thereon, the top near one end thereof being fitted with a headrest 11 for the head of a patient recumbent upon the table. The table A is of the required height and has the legs 12.

Formed in the top 10 of the table A a distance slightly removed from the headrest 11 and at opposite sides of the longitudinal center of said top are the openings 13, while fixed to the under face of said top between these openings are hangers 14 for the suspension therefrom of an electric motor 15 and the mounting of a casing 16 having in its opposite side walls 17 bearings 18 for a driven shaft 19 loosely supporting a worm gear 20 meshing with a worm pinion 21 upon the power shaft 22 of the motor 15. This gear 20 and pinion 21 are concealed within the casing 16. The shaft 19 extends beyond the bearings 18 exteriorly to opposite sides of the casing 16 and has fixed to these external ends weighted eccentrics 23.

Mounted upon the underside of the top A spaced from the hangers 14 and centered relative thereto is a bracket 24 having the bearing ears 25 in which is journaled a rocking shaft 26 carrying a swinging arm 27 provided with a cross rod 28 to which are connected pitmen 29, these being also connected by the eccentric wrist pins 30 with the eccentrics 23. The cross rod 28 has attached thereto at its ends the applicator strap or band 31 which is disposed crosswise of the body of a person when resting upon the top 10 of the table A with the head upon the rest 11 of said table. The strap or band 31 plays through the openings 13 in the top 10 of the table A when the apparatus is in operation.

Fixed to the shaft 19 interiorly of the casing 16 is a striker arm 32, the same being located within the casing 16 and being arranged in the path of a striking pin 33 carried by the gear 20 close to its periphery so that on rotary movement to the said gear 20 this pin 33 will strike the arm 32, causing the shaft 19 to be rotated and this rotary movement of the shaft is converted by the eccentrics 23 for the reciprocation of the pitmen 29, thus causing a pulling and drawing action upon the strap or band 31 for its action upon the body of the patient. The counterweights 34 of the ec-

centrics 23 are disposed diametrically opposite the wrist pins 30.

Mounted in the bracket 24 is a tensioning spring 35 which acts directly upon the arm 27 to urge it in an upward direction so that an upward thrust of the pitmen 29 under the tension of the spring 35 will take place when the wrist pins have moved past dead center under clockwise rotation of the gear 20, thus advancing the arm 32 relative to the pin 33 on the gear 20 during the upward arcuate swing of said arm 32 and under this movement a pulsation action is had through the strap or band 31. The pin 33 striking the arm 32 during the downward movement of the said arm positively drives the same in this direction. The action of the apparatus functions for the treatment of a patient automatically, peculiar to the art of osteopathic therapeutics, thereby eliminating the hand manipulation as is customary.

In the working of the apparatus there is a slow down motion with a quick release, this being timed between thirty and thirty-five strokes per minute. The down stroke produces a positive pressure as an expiration and the sudden release quickly amplifies the negative pressure or inspiration and producing a suck within the thorax.

What is claimed is:

1. An apparatus of the character described comprising a table having spaced transversely aligned openings at opposite sides of its longitudinal center, a motor supported beneath the table and having a power shaft, a driven shaft journaled beneath the table, a toothed gear loose upon said driven shaft, a driving screw on the power shaft of the motor and meshing with said driven gear, a wrist pin eccentrically mounted in the driven gear, a striker arm fixed to the driven shaft and engageable with the wrist pin, a pitman eccentrically connected with the driven shaft, a cross rod carried by said pitman, a swinging arm pivoted beneath the table and connected with the cross rod, means for tensioning the swinging arm when moved in one direction, and an applicator strap working through the openings in the table and removably connected with the cross rod.

2. An apparatus of the character described comprising a table having spaced transversely aligned openings at opposite sides of its longitudinal center, a motor supported beneath the table and having a power shaft, a driven shaft journaled beneath the table, a toothed gear loose upon said driven shaft, a driving screw on the power shaft of the motor and meshing with said driven gear, a wrist pin eccentrically mounted in the driven gear, a striker arm fixed to the driven

shaft and engageable with the wrist pin, a pitman eccentrically connected with the driven shaft, a cross rod carried by said pitman, a swinging arm pivoted beneath the table and connected with the cross rod, means for tensioning the swinging arm when moved in one direction, an applicator strap working through the openings in the table and removably connected with the cross rod, and a headrest superimposed upon the table.

3. An apparatus of the character described comprising a table having spaced transversely aligned openings at opposite sides of its longitudinal center, a motor supported beneath the table and having a power shaft, a driven shaft journaled beneath the table, a toothed gear loose upon said driven shaft, a driving screw on the power shaft of the motor and meshing with said driven gear, a wrist pin eccentrically mounted in the driven gear, a striker arm fixed to the driven shaft and engageable with the wrist pin, a pitman eccentrically connected with the driven shaft, a cross-rod carried by said pitman, a swinging arm pivoted beneath the table and connected with the cross rod, means for tensioning the swinging arm when moved in one direction, an applicator strap working through the openings in the table and removably connected with the cross rod, a headrest superimposed upon the table, and a housing enclosing the driving screw, driven gear and striker arm.

4. An apparatus of the character described comprising a table having spaced transversely aligned openings at opposite sides of its longitudinal center, a motor supported beneath the table and having a power shaft, a driven shaft journaled beneath the table, a toothed gear loose upon said driven shaft, a driving screw on the power shaft of the motor and meshing with said driven gear, a wrist pin eccentrically mounted in the driven gear, a striker arm fixed to the driven shaft and engageable with the wrist pin, a pitman eccentrically connected with the driven shaft, a cross rod carried by said pitman, a swinging arm pivoted beneath the table and connected with the cross rod, means for tensioning the swinging arm when moved in one direction, an applicator strap working through the openings in the table and removably connected with the cross rod, a headrest superimposed upon the table, a housing enclosing the driving screw, driven gear and striker arm, and a weighted eccentric carried by the driven shaft and connecting the pitman therewith.

EVERETT A. BUCK.

LLOYD W. MOREY.

80

85

90

95

80

85

90

95

100

105

110

115

120

125

130

135

140

145

150