July 1, 1930. N. E. GOODRICH 1,769,565

MASSAGING MACHINE

Filed April 30, 1928 2 Sheets-Sheet 1

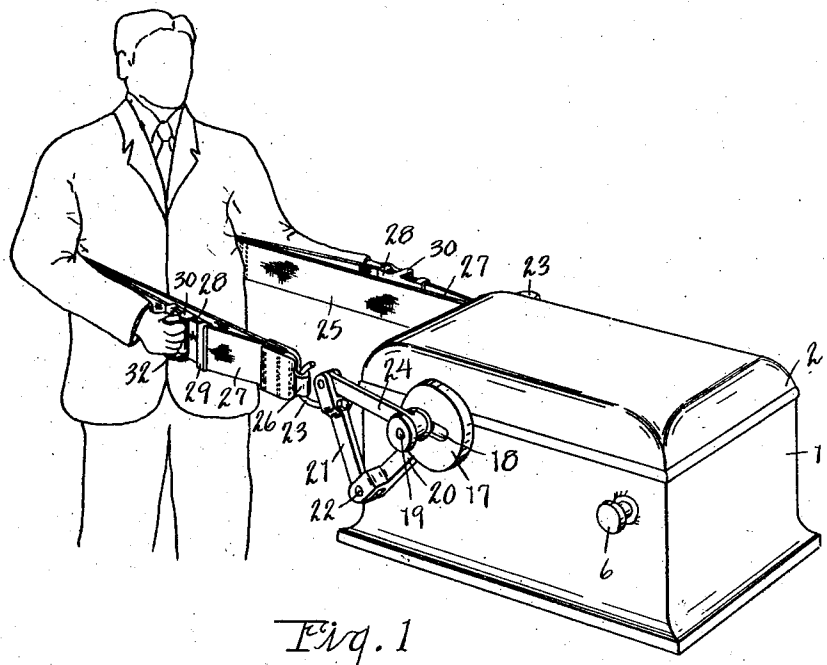


Fig. 1

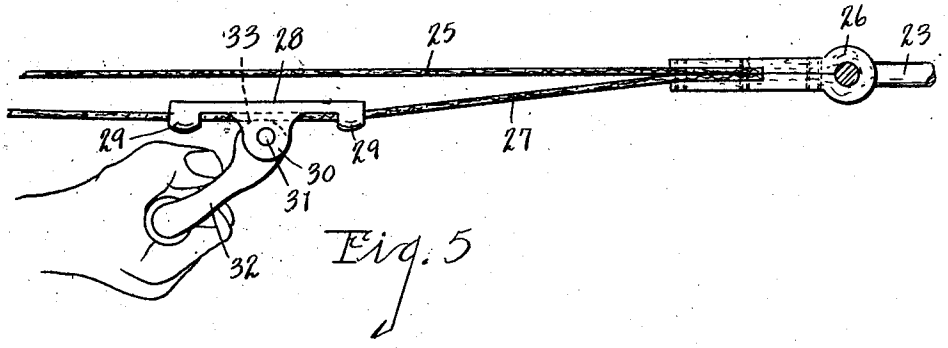


Fig. 5

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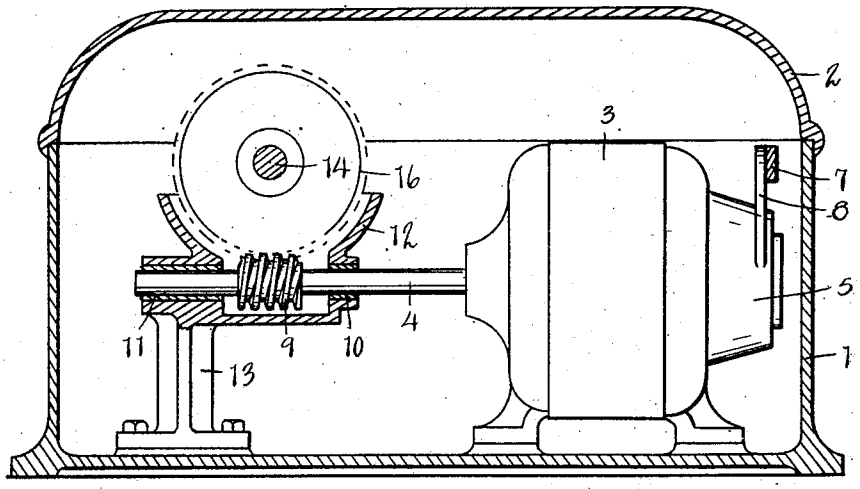


Fig. 2

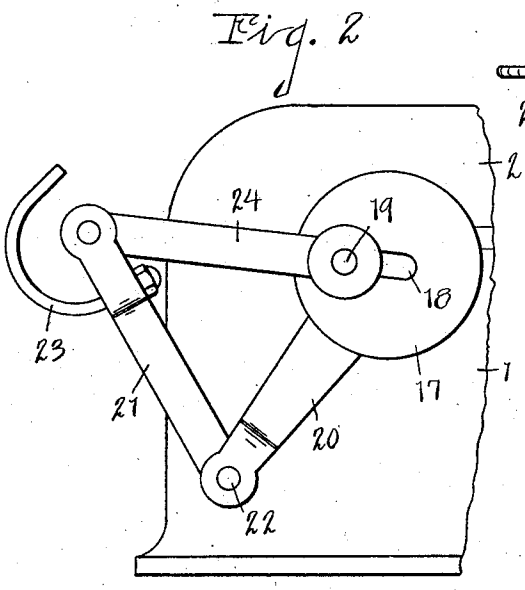


Fig. 3

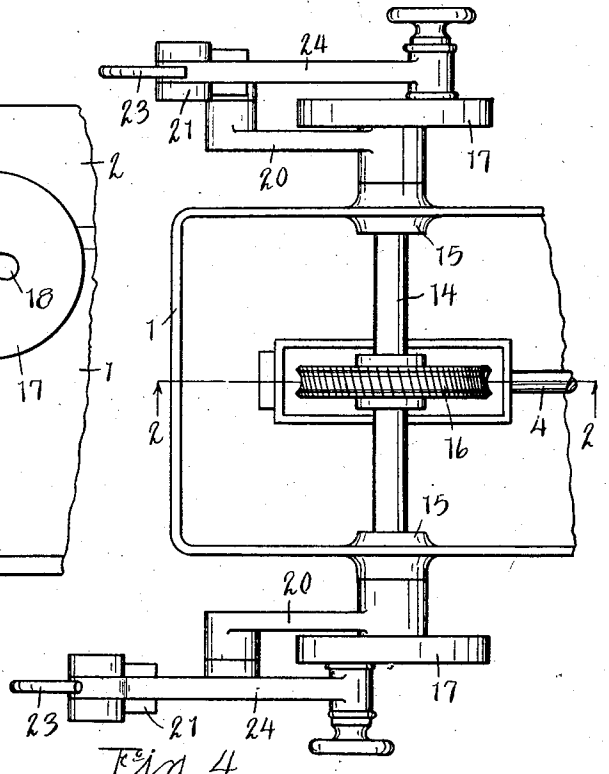


Fig. 4

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Patented July 1, 1930 1,769,565

UNITED STATES PATENT OFFICE

NORRIS E. GOODRICH, OF BATTLE CREEK, MICHIGAN, ASSIGNOR TO SANITARIUM EQUIPMENT COMPANY, OF BATTLE CREEK, MICHIGAN

MASSAGING MACHINE

Application filed April 30, 1928. Serial No. 273,942.

The main objects of this invention are:

First, to provide an improved massaging machine which is adapted for simultaneous treatment of the body and shoulders or arms.

Second, to provide an improved massaging machine which may be quickly adjusted while the machine is in operation to enable the securing of different results or the treatment of the body in different positions.

Third, to provide an improved massaging machine which is powerful and at the same time very compact.

Objects pertaining to details and economies of my invention will definitely appear from the description to follow. The invention is defined in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing, in which:

Fig. 1 is a perspective view of a massaging machine embodying the features of my invention, the same being illustrated in one operative relation to the user or person being treated.

Fig. 2 is a detail view partially in longitudinal section on a line corresponding to line 2—2 of Fig. 4.

Fig. 3 is a detail side elevation.

Fig. 4 is a fragmentary plan view with the cover of the housing removed.

Fig. 5 is a detail view showing structural details of the applicator.

Referring to the drawing, the body 1 of the housing is preferably a box-like casting provided with a removable cover 2. The motor 3 is the variable speed type and is provided with a speed control member 5 having a fingerpiece 6 disposed on the outside of the housing. This fingerpiece is mounted on the link 7 connected to the arm 8 on the control member.

The shaft 4 is provided with a driving worm 9 disposed between the bearings 10 and 11 provided for the outer end of the shaft. These bearings are arranged in a box 12 carried by the pedestal 13 and the box is adapted to receive and retain a lubricant.

A driven shaft 14 is disposed transversely of the housing with its ends projecting through the bearings 15 in the walls of the housing. The shaft 14 is provided with a worm gear 16 meshing with the worm 9.

On the outer ends of the shaft I mount crank disks 17 having radial slots 18 in which the crank pins 19 are radially adjustable. The details of this adjustment are not shown as suitable mechanisms for this purpose are known in the art.

At the inner side of the crank disks I mount hangers 20 which are pivoted on the shaft 14. The actuated arms 21 are pivoted on the lower ends of these hangers at 22 and provided with rearwardly facing curved hooks 23 with which the applicators may be engaged. The upper ends of the arms 21 are connected by the pitmen 24 to the crank pins.

With this arrangement the arms 21 are supported for oscillating movement and at the same time may swing in accordance with the pull of the applicator thereon, as for instance the applicator illustrated in Figs. 1 and 5, which consists of the band or strap-like member 25 having couplings 26 at the ends thereof engageable with the hooks 23. On the outer sides of these members 25 I mount the straps 27 which are secured at their ends as shown in Figs. 1 and 5 to receive and support the hand grips or handholds consisting of the slides 28 having loops or crosspieces 29 at their ends slidably receiving the straps 27.

These slides have projecting ears 30 between the loops to receive the pivots 31 of the grips or handpieces 32. These handholds have eccentric portions 33 constituting cams for clamping engagement with the straps when the handhold is pulled rearwardly, thereby adjustably securing the handholds to the straps and at the same time permitting their quick adjustment thereon. It is only necessary to swing the handhold forwardly and move the slide along to the desired position when a rearward movement of the handhold clamps it in such position.

This applicator is very desirable for treatment of the arms and shoulders. The length of stroke can be readily varied, the position

of the arms can be varied and also the speed, thereby adapting the machine to a wide range of conditions.

I have illustrated and described my improvements in an embodiment which I have found very practical. I have not attempted to illustrate or describe various other embodiments or adaptations which I contemplate as I believe the disclosure made will enable those skilled in the art to embody or adapt my improvements as may be desired.

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

1. In a massaging machine, the combination of a housing, a motor disposed with its shaft longitudinally of said housing and provided with a worm, a driven shaft disposed transversely of said housing with its ends projecting therefrom and provided with a worm gear coacting with said worm on said motor shaft, crank disks on the outer ends of said driven shaft provided with radially adjustable crank pins, hangers pivotally mounted on said driven shaft at the inner sides of said crank disks, actuated arms pivotally mounted on the outer ends of said hangers and provided with applicator engaging members, and pitmen connecting the said actuated arms to said crank pins.

2. In a massaging machine, the combination of a motor provided with a driving shaft having a worm thereon, a driven shaft provided with a worm gear coacting with said worm on said motor shaft, crank disks on the outer ends of said driven shaft provided with radially adjustable crank pins, hangers pivotally mounted on said driven shaft at the inner sides of said crank disks, actuated arms pivotally mounted on the outer ends of said hangers and provided with applicator engaging members, and pitmen connecting the said actuated arms to said crank pins.

3. In a massaging machine, the combination of a housing, a variable speed motor disposed with its shaft longitudinally of said housing and provided with a worm, a driven shaft disposed transversely of said housing with its ends projecting therefrom and provided with a worm gear coacting with said worm on said motor shaft, crank disks on the outer ends of said driven shaft provided with radially adjustable crank pins, hangers, actuated arms pivotally mounted on said hangers and provided with applicator engaging hooks at their upper ends, and pitmen connecting the said actuated arms to said crank pins.

4. In a massaging machine, the combination of a housing, a shaft disposed with its ends projecting therefrom, a motor within said housing, reducing gear driving connections for said motor to said shaft disposed within said housing, crank disks on the outer ends of said driven shaft provided with radially adjustable crank pins, hangers pivotally mounted on said driven shaft at the inner sides of said crank disks, actuated arms pivotally mounted on the outer ends of said hangers and provided with applicator engaging members, and pitmen connecting the said actuated arms to said crank pins.

5. In a massaging machine, the combination with a pair of oscillating actuated members provided with rearwardly facing curved hooks, of a flexible band-like applicator with eyes at its end slidably engaging said hooks, straps disposed on the outer side of said applicator adjacent the ends thereof, the ends of said straps being secured to said applicator, slides provided with loops at their ends embracing said straps, said slides having outwardly projecting ears intermediate said loops, and handholds pivoted on said ears and provided with eccentric strap engaging clutches arranged to be actuated to clutching position by rearward movement of the handholds.

6. In an apparatus of the class described, the combination of a flexible band-like applicator provided with coupling means at its ends, straps disposed on the outer side of said applicator adjacent its ends, the forward ends of said straps being secured to the applicator, handhold slides provided with loops at the ends thereof slidably receiving said straps, said slides having outwardly projecting ears between said loops, and handpieces pivoted on said ears and provided with eccentric clamping members actuated to engaging position by a rearward pull on the handholds.

7. In a massaging machine, the combination with a pair of oscillating actuated members provided with rearwardly facing hooks, of a flexible band-like applicator with eyes at its ends engaging said hooks, straps disposed on the outer side of said applicator and secured thereto adjacent its ends, and handholds adjustable on said straps.

8. In a massaging machine, the combination of a pair of actuated members, a flexible applicator connected at its ends to said actuated members, and handholds adjustably mounted on said applicator for adjustment to and from the said actuated members.

9. In a massaging machine, the combination of a pair of actuated members provided with applicator engaging means, a flexible band-like applicator engageable at its ends with said actuated members, and handholds mounted on said applicator for longitudinal adjustment and provided with securing means adapted to be actuated to engaging position by a rearward pull on the handholds.

10. In a massaging machine, the combina-

tion with a pair of oscillating actuated members, of a flexible applicator connected at its ends to said actuated members, and handholds mounted for adjustment longitudinally of said applicator, said handholds being provided with securing means adapted to be actuated to engaging position by a rearward pull on the handhold and to be released by forward movement thereof.

In witness whereof, I have hereunto set my hand.

NORRIS E. GOODRICH.