Feb. 3, 1931. W. C. BRUMDER 1,790,654

MECHANICAL MOVEMENT

Filed June 7, 1928

Fig. 1.

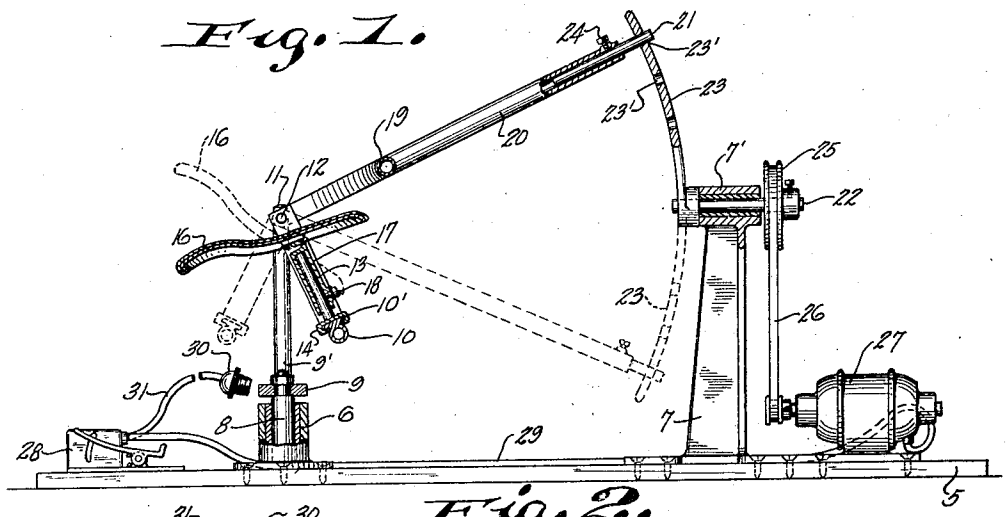


Fig. 2.

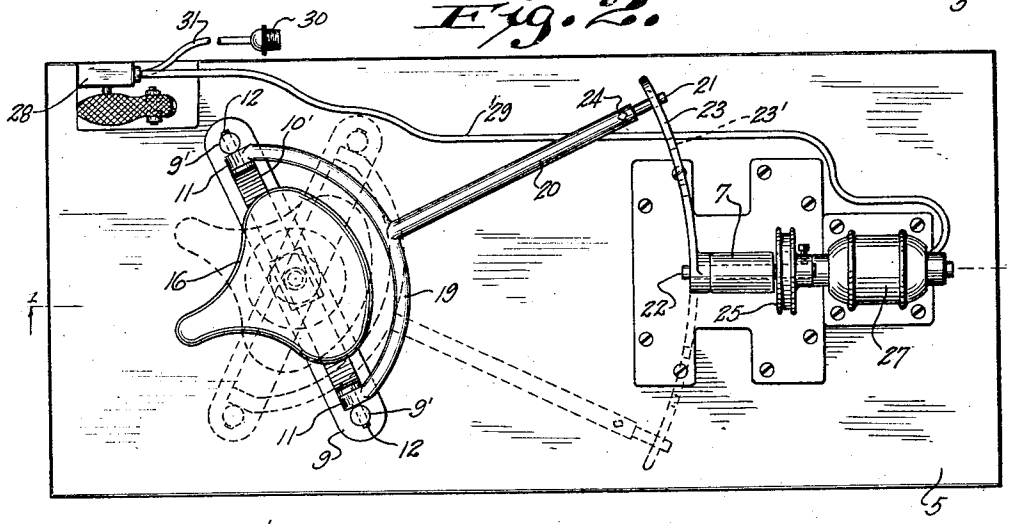
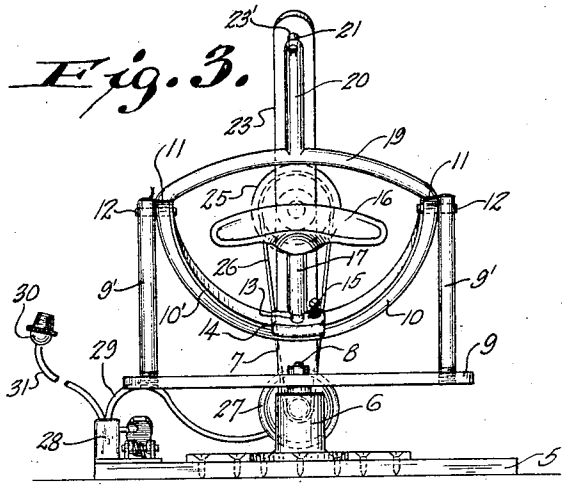


Fig. 3.



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UNITED STATES PATENT OFFICE

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MECHANICAL MOVEMENT

Application filed June 7, 1928. Serial No. 283,565.

This invention relates to improvements in mechanical movements, adapted for use in many arts and more particularly for therapeutic uses.

It has been found that therapeutically the human muscles, organs, tissue, etc., are greatly benefited by moving said parts mechanically in a direction to exercise and stimulate the flow of blood thereto and thus increase the general health of the user.

It is one of the objects of the present invention to provide a mechanical movement which will accomplish the before mentioned results in a very simple manner.

A further object of the invention is to provide a mechanical movement in which, in one of its uses, an oscillatory and rocking movement is imparted to a saddle upon which the user sits to exercise the trunk and other portions of the body.

A further object of the invention is to provide a mechanical movement in which the saddle may be adjusted to different positions, either above or below the axial line or point of movement of the seat supporting members, and in addition may be adjusted laterally in an arc to change the angle of the movement imparted to the trunk of the body.

A further object of the invention is to provide a mechanical movement in which the degrees of both oscillatory and lateral movements may be easily increased or diminished as desired.

A further object of the invention is to provide a mechanical movement driven by an electric motor having a means for controlling the motor in which the user while using the device may control the operation thereof.

A further object of the invention is to provide a mechanical movement which is of simple construction, is strong and durable and is well adapted for the purpose described.

With the above and other objects in view, the invention consists of the improved mechanical movement and its parts and combinations as set forth in the claims, and all equivalents thereof.

In the accompanying drawing in which the same reference characters indicate the same parts in all of the views:

Fig. 1 is a central vertical sectional view of the improved mechanical movement taken on line 1—1 of Fig. 2, the view also indicating by dotted lines other position of the parts;

Fig. 2 is a plan view thereof; and

Fig. 3 is a front view.

In the drawing, the numeral 5 indicates a base member having an upwardly extending tubular member 6 and a standard member 7, all of which form the frame of the machine. The tubular member 6 is spaced forwardly of the standard and has journaled therein the pivot pin 8 of a transverse supporting member 9 which is provided with spaced upright members 9′. A U-shaped member 10, having its upper end portions 11 pivotally connected to the upper ends of the upright members 9′ by pivot pins 12, is provided with laterally extending flanges 10′ for receiving the lower end of a seat post member 13. Said member 13 at its lower end is provided with a yoke portion 14 which extends partly around the flanges 10′ to adjustably connect, in an arc of movement, the seat post thereto. A set screw 15 or other means is provided for holding the post in adjusted position. A saddle or work member 16 having a lower tubular post 17 extends over the upright post 13 and is connected thereto by set screw 18 to permit vertical adjustment of the saddle above or below the plane of the pivot pins 12, while the yoke portion permits a lateral tilting adjustment of the saddle.

The U-shaped member 10 at its upper ends is formed with a U-shaped extension 19 which extends at right angles rearwardly, and medially of its length is provided with a rearwardly projecting tubular stem or arm 20 having an adjustable bolt or extension 21.

The standard 7 at its upper end is formed with a bearing 7′ in which is journaled a horizontal shaft 22 having a curved crank part 23 connected to its forward end. The curvature of the cranked part 23 is formed on the arc of a circle generated by a radius drawn about the point of intersection of the axis of the post 8 and the plane determined by the axis of the pivot pin 12, so that the arm 20 will extend radially with relation to the cranked part. Said cranked part is provid-

ed with a line of perforations 23′ for pivotally and adjustably receiving the rear end or bolt 21 of the arm 20, so that when the crank shaft 22 is rotated by any means desired, the saddle or seat 16 will be rocked laterally at the same time it will be tilted upwardly and downwardly. The saddle will also have a forward and rearward oscillation when adjusted above or below the axial line of the pivot pins 12. By adjusting the bolt 21 in any one of the line of perforations 23′ a greater or less amount of movement may be imparted to the saddle; also by tilting the saddle stem 13 or raising or lowering the saddle will change the relative movement of the parts. A set screw 24 holds the bolt 21 in adjusted position.

The rear end of the shaft 22 has mounted thereon a grooved pulley 25 for belt connection 26 with an electric motor 27 or other driving means mounted on the base or frame 5. A foot controlled rheostat 28 may be connected to the motor by wires 29 and to a socket plug 30 by wires 31. The plug may be connected to any ordinary electric outlet socket and the speed of rotation of the motor controlled by the user taking the exercise.

It is also to be understood that the mechanical movement may be used in any position at an angle to the position shown without departing from the spirit and scope of the invention.

It is also to be clearly understood that the construction shown and described merely exemplifies one use of the mechanical movement and that the movement may be used for many different purposes without departing from the spirit and scope of the invention.

From the foregoing description it will be seen that the mechanical movement is of very simple construction and is well adapted for the purpose described.

What I claim as my invention is:—

1. A mechanical movement, comprising a support, a transverse turnable member carried by the support, a member pivotally carried by and positioned between the upper portions of said transversely extending turnable member and movable in a plane at an angle to the plane of movement of said turnable member, and a crank means for imparting a turning movement to the transversely extending turnable member and a tilting movement to the other member at an angle to the turnable member.

2. A mechanical movement, comprising a support having a standard, a transversely extending turnable member carried by the support, a member pivotally carried by and positioned between the upper portions of said transversely extending turnable member and movable in a plane at right angles to the plane of movement of said turnable member, a curved crank member pivotally connected to the carried member and to the standard for imparting a turning movement to the turnable member and a tilting movement to the carried member at right angles to the transversely extending turnable member, and means for rotating the crank member.

3. A mechanical movement, comprising a support, a standard projecting upwardly therefrom and having a bearing at its upper portion, a vertical bearing mounted on the support and spaced forwardly of the standard, a transversely extending member journaled in the vertical bearing and having upwardly extending spaced arms, a U-shaped member pivotally connected to the arms and having a rearwardly extending arm, a member carried by the U-shaped member, a shaft journaled in the bearing of the standard and having a cranked portion which is adjustably and pivotally connected to the rearwardly extending arm for rocking the carried member horizontally and tilting it vertically, and means for rotating the cranked shaft.

4. A mechanical movement, comprising a support, a standard projecting upwardly therefrom and having a bearing at its upper portion, a vertical bearing mounted on the support and spaced forwardly of the standard, a transversely extending member journaled in the vertical bearing and having upwardly extending spaced arms, a U-shaped member pivotally connected at its upper ends to the upper end portions of the arms and having a medially positioned and rearwardly extending arm, a work member positioned medially of and connected to the U-shaped member, a shaft journaled in the bearing of the standard and having a cranked portion which is adjustably and pivotally connected to the rearwardly extending arm for rocking the work member horizontally and tilting it vertically, and means for rotating the shaft.

5. A mechanical movement, comprising a support, a standard projecting upwardly therefrom and having a bearing at its upper portion, a vertical bearing mounted on the support and spaced forwardly of the standard, a transversely extending member journaled in the vertical bearing and having upwardly extending spaced arms, a U-shaped member pivotally connected at its upper ends to the upper end portions of the arms to swing at right angles to the movement of the transverse member, said U-shaped member having a medially positioned and rearwardly extending arm, a post adjustably mounted on the U-shaped member, a work member vertically, adjustably mounted on the post, a shaft journaled in the bearing of the standard and having a curved cranked portion which is adjustably and pivotally connected to the rearwardly extending arm for rocking the work member horizontally and tilting it vertically, an electric means for rotating the shaft, and means for controlling the speed of the electric means.

6. A mechanical movement, comprising a turnable member, a member pivotally connected to the turnable member and movable at an angle thereto and having a rearwardly extending arm, a work member connected to the member with the arm and adjustable vertically above and below the plane of pivotal connections between the turnable member and the member with the arm, a shaft having a cranked portion connected to the rearwardly extending arm, said cranked portion being of curved formation with the curve formed on a radius whose axis is coincident with the intersection of the plane of the axis of the turnable member and the plane of the axis of the pivotal connections of the member with the arm, and means for rotating the shaft.

In testimony whereof, I affix my signature.

WILLIAM C. BRUMDER.