

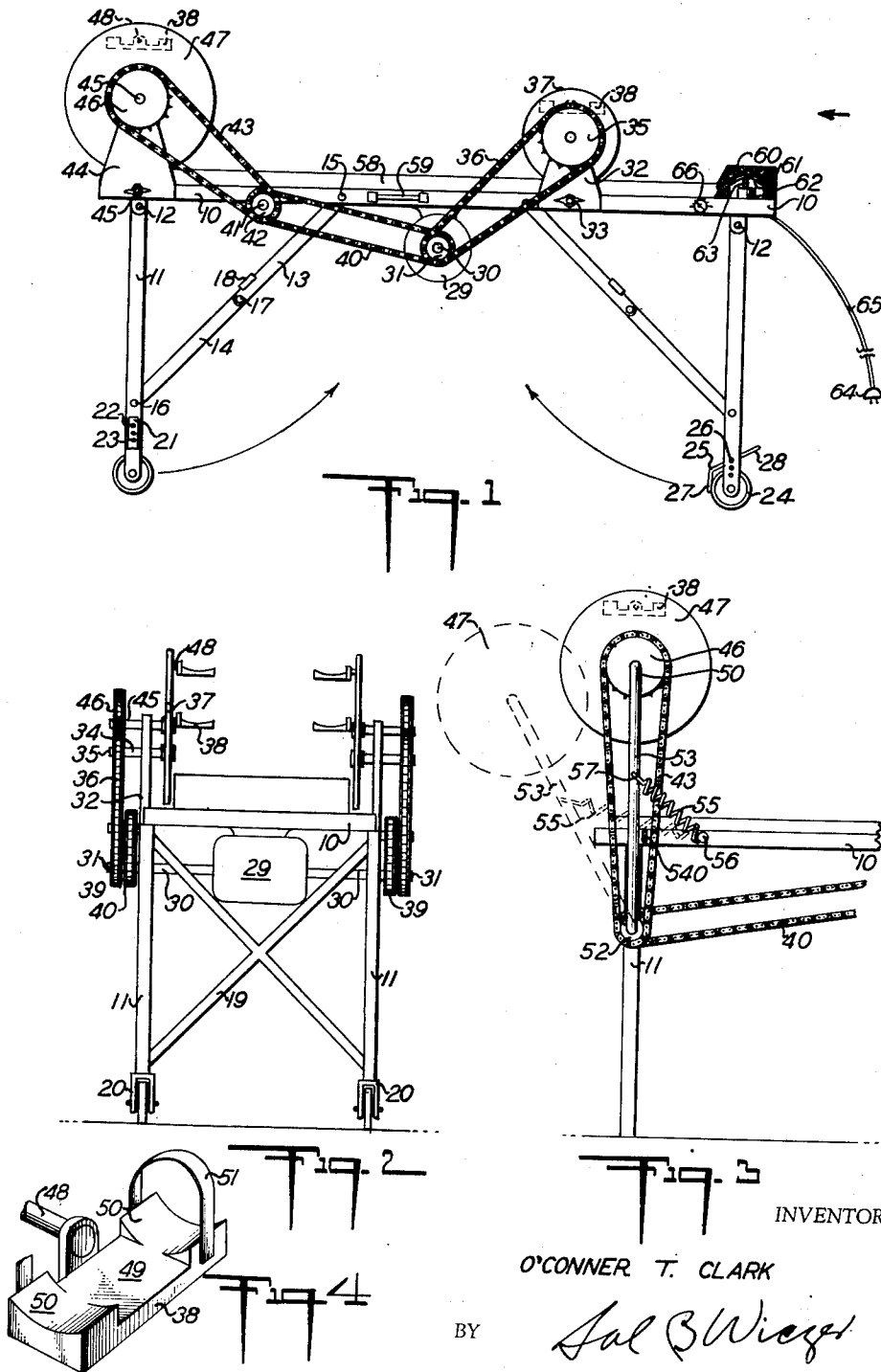
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EXERCISING DEVICE

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EXERCISING DEVICE

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This invention relates to an exercising device and is particularly adapted to exercise of hands and legs while the body is resting in a prone position thus serving to exercise the muscles in the lower stomach, legs, shoulders and arms.

The exercising device is power driven whereby the exercising is forced by attaching any or all of the hands and feet to the driven device.

The device is highly flexible. The height of exercising table may be adjusted. The device is portable. Its parts are demountable and the legs of the table are foldable, for storage or transportation. It is also flexible for adjustment for persons of variable height and has ready off-on control for safe use by the exerciser.

In the drawings:

Fig. 1 shows a side elevation of the exercising device in unfolded position.

Fig. 2 is an end view looking in the direction of the arrow of Fig. 1;

Fig. 3 is a detail of the end of the table showing the manner in which the foot exerciser is lengthwise adjustable at will; and

Fig. 4 is a detail of a foot or leg rest attached to the exercising device.

Referring to Fig. 1, the device consists of a table 10 having four corner post legs 11 which are suitably hinged at the juncture with the table at 12 for folding of said legs in storage. The legs are supported by a bracket-like or bracing arms 13 and 14 hinged to the table at 15 and to one of the legs at 16 through a central jack-knifing joint 17 which is supported firmly in the open position by a stop 18. As shown in Fig. 2 each of the legs 11 may have further cross braces 19 which support the legs latterly upright or folded. It will be apparent that each of the legs are foldable inwardly beneath the table 10 in the direction of the arrows by simultaneously bending the brackets 13 or 14 at the joint 17.

Each of the legs 11 is mounted on casters 20 which are supported from a vertical shaft 21 which fits in a sliding bayonet joint within a hollow leg 11 and may be adjustably fixed at a desired height by insertion of a pin 22 which co-operates with a series of holes 23 bored in the supporting shaft 21 whereby it may be fixed within the leg 11 at any desired height.

Each of the wheels 24 supported within the caster yoke 20 may have a braking device consisting of a bell crank arm 25 pivotal to the leg 11 at 26 one end of which 27 is bent to ride upon the periphery of the wheel for the braking thereof when the crank arm 25 is moved down on its

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pivot and the other end of the crank 25 is an outwardly extending arm 28 which may be engaged as a lever to properly position the bell crank 25 either to lock the wheels or release the same so that the device is portable or may be locked in fixed position in use.

The table 10 has centrally mounted therebeneath an electric motor 29 having driving shafts 30 extending symmetrically from the armature to both sides of the table for driving sprocket wheels 31 mounted on the ends thereof for continuous drive on both sides of the table. Mounted on both sides a distance inwardly from the head end of the table 10 are supporting brackets 32 which as shown are removably fastened to the table by a wing nut and bolt 33, or other suitable fastening device whereby the bracket is readily removed and thereby becomes quickly demountable. Each of the brackets 32 have journaled therein at the upper end a shaft 34 on the outer end of which is fastened as by a key a sprocket wheel 35 around which is entrained for positive drive thereof a sprocket chain 36, the other end of said chain being entrained around sprocket gear 31 for positive continuous drive thereby as the motor 29 is rotated. The inner end of shaft 34 has similarly mounted thereon a wheel or disc 37 which is thereby rotated continuously beside the arm of the person being exercised lying prone upon the table 10. The disc 37 carries a hand grip or an arm rest 38 which may be merely a knob for gripping by hand or may be an arm rest in which the arm may be fastened as will appear.

As thus described the motor 29 drives from shaft extensions of its armature to both sides of the table through independent sprocket wheels 31 by way of a chain drive to continuously rotate two discs 37 which have arm rests or arm grips 38 for exercise of both hands or arms at the same rate, the construction being symmetrical for both left and right hand sides of the table.

The armature shafts 30 also, symmetrically on both sides, carries sprocket wheels 39 mounted parallel on the same shaft beside sprocket wheels 31 and which also have entrained thereabout a driving gear chain 40. Fixed at any desired intermediate point near the foot of the table 10, according to the modification shown in Figs. 1 and 2, is a shaft 41 journaled for rotation in a bracket beneath the table 10 (not shown) for rotary support of an idler sprocket gear 42 around which the chain 40 is entrained for positive drive thereof. The idler sprocket 42

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is a double sprocket gear for transferring the driving effect of sprocket chain 40 to another sprocket chain 43. Mounted symmetrically on both sides at the end of the table 10, as shown in Fig. 1, is another pair of brackets 44 which are similarly pinned or fastened to the table 10 through a wing nut and bolt 45 as to be demountable. Each bracket 44 has journaled therein for rotation a shaft 45 which carries at the outer end thereof a sprocket gear 46 around which the chain 43 is entrained for rotary drive thereof. The inner end of the shaft 45 carries an enlarged foot exercising wheel or disc 47 which in turn has a small pin-like shaft 48 journaled therein both for rotation therewith and to rotate therein as the disc 47 rotates. The shaft 48 rotatively supports a foot rest 38.

The foot rest 38 as shown in detail Fig. 4, is merely supported for free-swinging rotation upon the pin 48 so that it may be held at any angle while the disc 47 is rotated by the sprocket drive. The foot support 38 is desirably a flat plate 49 which may have each end raised and rounded as at 50 for comfortable support of the foot or leg which may rest in the rounded portions 50 while being exercised. For additional support of the foot an elastic band or strap 51 may be trained around the ankle or higher part of the leg for convenient gripping thereof. The footrest 38 as thus rotatively supported from the disc will comfortably support the foot or leg of the person exercising at any angle, while it is being drawn in a circle of whatever diameter the pin 48 is fixed from the center of the disc 47. It will be apparent that by attaching the foot in the rest 38 and rotating the disc the person lying upon the table would have his foot continually flexed at the hip, knee, and ankle as the disc is rotated.

As shown in a modification Fig. 3, it is possible to have the disc 47 and rotary driving support thereof displaced lengthwise of the table to fit most comfortably the height or length of the person lying prone on table 10 being exercised, i. e. the disc may be displaced lengthwise of the table for a taller person. For this purpose, the idler sprocket 42 is replaced by a sprocket 52 which is mounted on a leg 11 of the table 10. In this position the idler shaft 41 which supports the sprocket continues as a bent arm bracket 53 extending upwardly or outwardly from the table and which is further bent at the opposite upper end 54 into a shaft corresponding to a shaft 45 to support the sprocket wheel 46 and around which the chain 43 is entrained for drive, the extreme inner bent end of the shaft 54 supporting the disc 47 as in Fig. 1. The supporting shaft 53 thereby bears in vertical position against a stop or protuberance 540 which holds the same in the upright vertical position so that it can not be bent farther towards the head end of the table. It is maintained in this position by a coil spring 55 having one end fastened to the table at 56 and the other fastened to the shaft 53 at 57. Thus the shaft 53 sprocket and chain would normally operate in the vertical position held thereat by spring 55. Where a longer person is to be exercised he may press the entire foot exercising assembly outwardly in an arc against the tension of spring 55 for a more comfortable exercising position and upon withdrawing his feet and stopping the exercise, the spring 55 will return the assembly to the vertical position against stop 540.

It will be understood in the description here-

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in given that the table is entirely symmetrical on both sides; that there are two sprockets one for each foot, that there are two supporting shafts one for each sprocket and driving disc and two exercising devices for each hand or arm, all driven by the common motor by a shaft 30 extending from both ends of the armature thereof.

With such cooperative but independent drives of the modification of Fig. 3 it is possible to extend one foot for exercise in an extended position against the tension of one spring 55 while the other is exercised in a bent position. Thus both legs can be exercised at different extended positions independently of each other. For convenience the table may have a comfortable mat or a sponge rubber sheet mounted thereon as at 58. For mounting of the exerciser carefully or for gripping both sides of the table to exercise only the feet, a handle 59 for gripping with the hands is mounted on both sides of the table.

As an additional safety feature a sponge mat 60 is mounted at the head of the table resiliently supporting in an inner hollow portion a plate 61 which cooperates with a push-pull spring contact type of electric switch 62; the plate 61 serving to press the pin 63 of said switch which actuates to make and break the electric current flowing to the electric motor 29. It will be seen thereby that when the body of the person being exercised has his head on the pillow 60 depressing the plate 61 against the switch, the motor is activated and will rotate for exercise, but when the head of the person being exercised is lifted from the pillow the spring actuated switch 63 will open the circuit to stop the current supply on rotation of the electric motor and exercising elements associated therewith.

The electrical circuit therefore, comprises merely a source of electric current as by a wall connector 64 which may be plugged into a standard wall electric outlet through electric lead lines 65 one of which passes through the switch 62 and being broken thereby as the switch 62 for on and off current control by the exerciser, the electric current then both passing through the electric motor for actuation thereof. Intermediate one of the wires there is desirably placed in circuit a rheostat-type speed control element 66 which is merely an electrical resistance placed in the circuit having a manual controlling knob for setting the resistance through which the circuit passes, thereby controlling the quantity of current passing to the electric motor 29 and consequently the speed thereof is really manually controllable by the user upon varying the resistance.

Thus in normal use the exerciser will lie prone upon the table. He may grip both handles 59 insert both feet or only one of them in the foot rest 38 and the device will be actuated when his head presses the cushion 60. Simultaneously he may if desired fasten both arms in similar members 38. Moreover he may extend one foot member in a device according to the modification of Fig. 3 to exercise one leg extended with the other bent if desired.

When the device is not in use the exercising elements may be removed from the table by unfastening the brackets 32 and 44 at 33 and 45 and these may be removed. The leg members 11 may be folded inwardly and the entire assembly thus collapsed for compact storage or shipment.

Certain modifications will occur to those skilled

in the art and it is intended that the drawings herein be regarded as illustrative and not limiting except as defined in the claims appended hereto.

I claim:

1. An exercising table having a plurality of rotary driven exercising discs mounted from the sides thereof near the hand and leg areas of a person lying prone on said table for exercise, each disc carrying rotarily mounted thereon near the periphery thereof a limb clamping means and means for rotating said discs.

2. An exercising table having a plurality of rotary driven exercising discs mounted from the sides thereof near the hand and leg areas of a person lying prone on said table for exercise, each disc carrying rotarily mounted thereon near the periphery thereof a limb clamping means, a single electric driving motor drivingly connected for rotation of each disc, electric switch means mounted on said table in circuit with said electric driving motor, said electric switch means being placed upon said table for actuation to complete the circuit by prone weight of the body of the exerciser.

3. An exercising table having a plurality of rotary driven exercising discs mounted from the sides thereof near the hand and leg areas of a person lying prone on said table for exercise, each disc carrying rotarily mounted thereon near the periphery thereof a limb clamping means, means for rotating each disc, said table being mounted on legs at each end, and means for adjusting the length of each table leg.

4. An exercising table having a plurality of rotary driven exercising discs mounted from the sides thereof near the hand and leg areas of a person lying prone on said table for exercise, each disc carrying rotarily mounted thereon near the periphery thereof a limb clamping means, means for rotating each disc, said table being mounted on legs at each end, and means for adjusting the length of each table leg, said

legs being pivotally mounted to the said table and being pivotally supported by braces whereby said legs are foldable beneath said table.

5. An exercising table having a plurality of rotary driven exercising discs mounted from the sides thereof near the hand and leg areas of a person lying prone on said table for exercise, each disc carrying rotarily mounted thereon near the periphery thereof a limb clamping means, means for rotating each disc, said table being mounted on legs at each end, and means for adjusting the length of each table leg, said legs having wheels mounted in the bottom of each thereof, and braking means pivotally mounted on said legs cooperative with said wheels for stopping the rotation thereof.

6. An exercising table having a driving motor mounted thereon drivingly connected to a pair of exercising discs, each rotatably mounted on a support pivotally extending from opposite sides of one end of said table, a spring tensioned between each support and the table constraining said support against a stop whereby each support and disc is resiliently held against a stop in vertical position, each pivoted support being resiliently displaceable arcuately lengthwise of said table by thrust of a limb of the body being exercised, and a limb clamping means rotarily mounted near the periphery of each disc.

7. Exercising device is defined in claim 6 having switch means in circuit in said driving motor mounted on said table actuable by the pressure of the body being exercised.

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