United States Patent

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[72] Inventors **Leonard Napoli**
60 Rosebrook Drive, Stratford, Conn. 06497;
Raphael J. Constanzo, 119 Park Street, Bridgeport, Conn. 06611

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[54] **EXERCISING DEVICE AND TENSION RELIEVER**
2 Claims, 6 Drawing Figs.

[52] **U.S. Cl.** **128/26,** 128/36, 272/68
[51] **Int. Cl.** **A61h 1/02**
[50] **Field of Search** ..... 128/24.2, 26, 34—36, 32; 272/68

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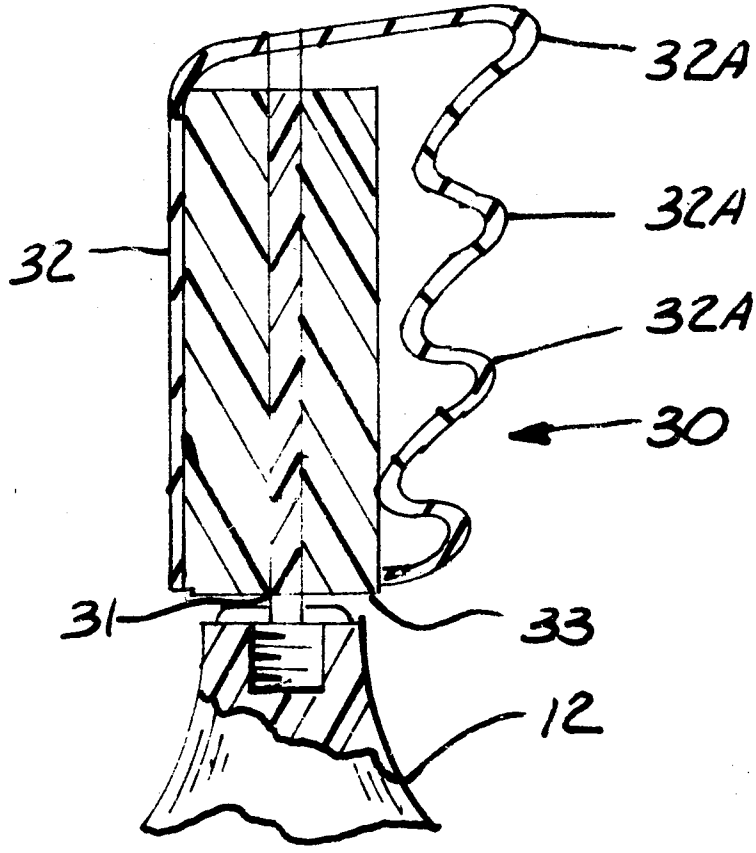
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Primary Examiner—L. W. Trapp
Attorney—Arthur T. Fattibene

ABSTRACT: A vibrator to which there is operatively connected a hand-gripping device in the form of a hard, resilient squeezer adapted to be used as a hand, wrist and arm strengthener. The squeeze exerciser used in conjunction with the vibratory effect of the vibrator enhances the blood circulation through the exercised parts while at the same time relieving any tension and/or stress developed in the muscles which may result from the squeezing exercises.



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SHEET 1 OF 2

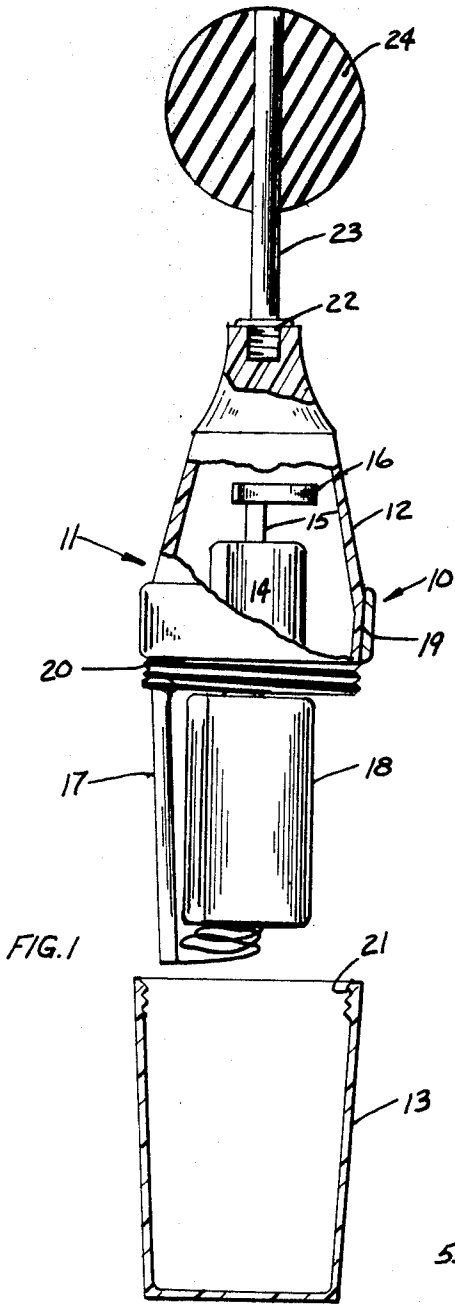


FIG. 1

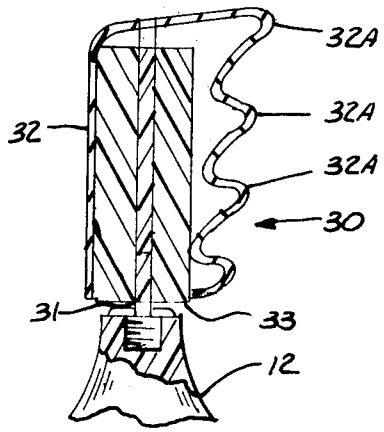


FIG. 2

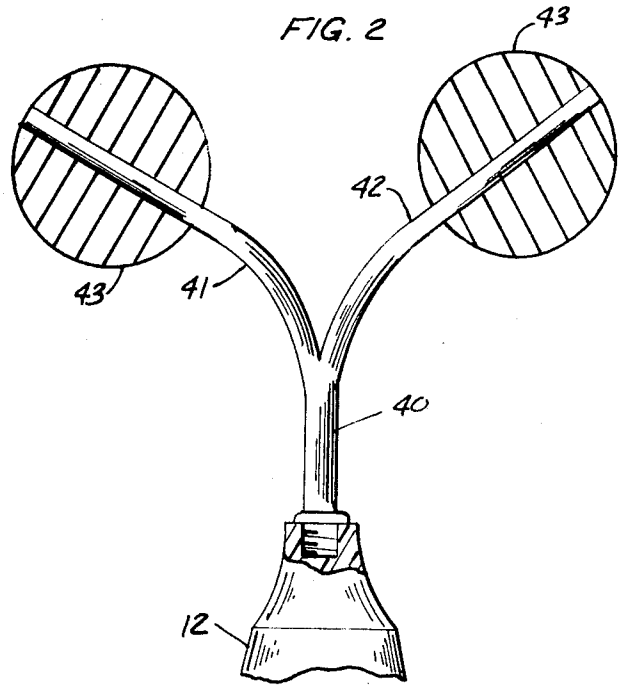


FIG. 3

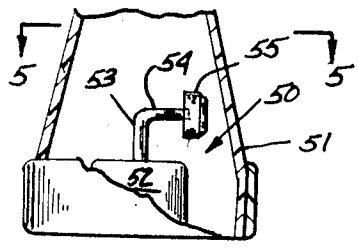


FIG. 4

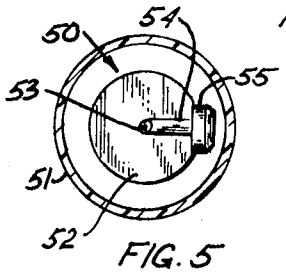
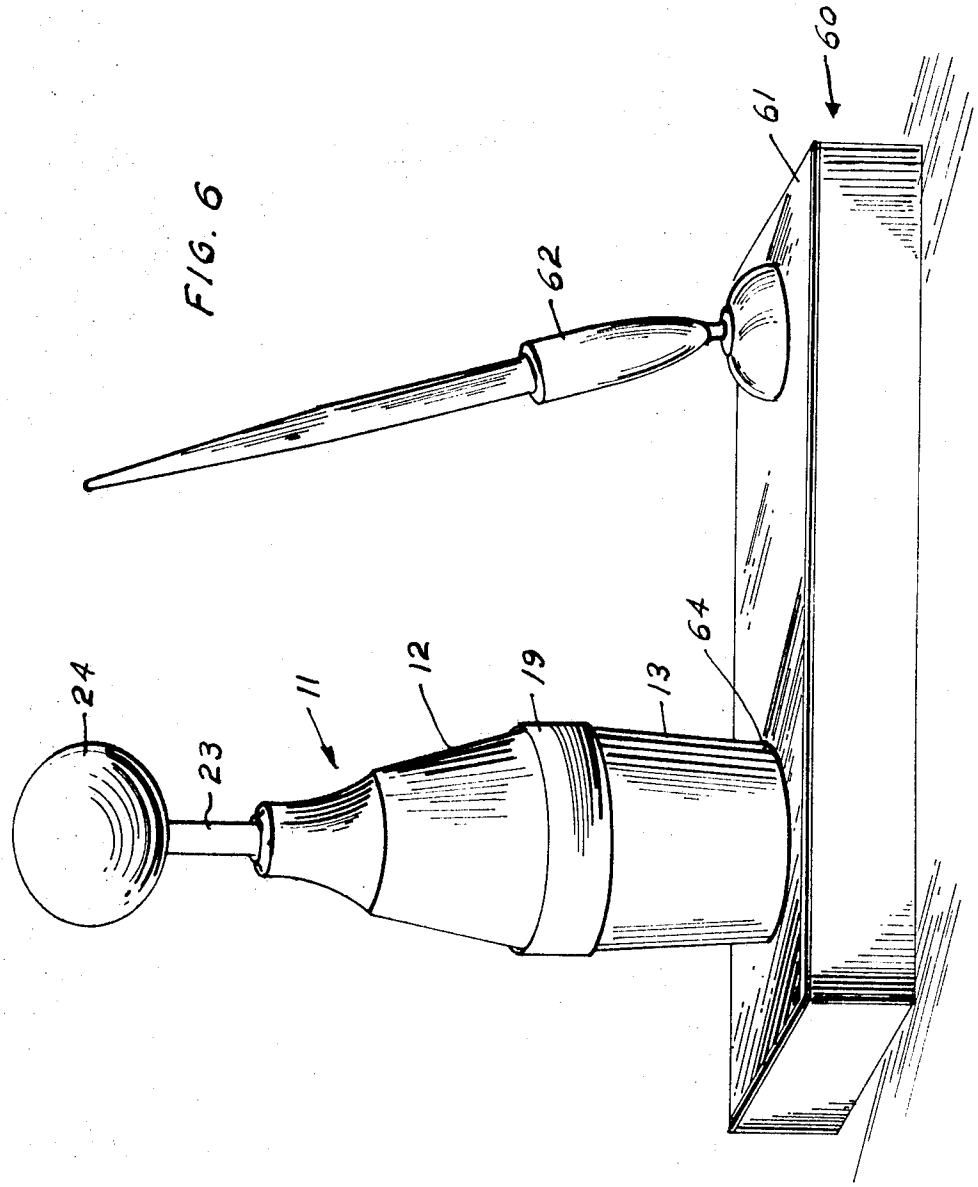


FIG. 5

INVENTORS
LEONARD NAPOLI
RAPHAEL J. COSTANZO

By Arthur G. Fattibene
ATTORNEY

FIG. 6



INVENTORS
LEONARD NAPOLI
RAPHAEL J. COSTANZO

By Arthur G. Fattibene
ATTORNEY

EXERCISING DEVICE AND TENSION RELIEVER

THE PROBLEM

In various athletic endeavors such as golf, tennis and other sports which require the use of one's arms, wrists and hands it has been discovered that one's game can be tremendously improved or enhanced simply by increasing the strength in one's hands, wrists and/or forearms. This is particularly true in those sports where a swing is involved, such as golf, tennis, baseball and the like. The experts in such sports have recognized that a firm grip of the club, racket or bat, and the followthrough of the swing is all-important in attaining the desired power, control and skill needed to excel in such endeavors.

Because many players of the games of golf, tennis and the like do not play with the frequency and/or regularity to develop the necessary strong hands, wrists and forearms to attain maximum proficiency in the games, they fail to achieve or attain maximum skill and enjoyment in the game.

OBJECTS

It is, therefore, an object of the invention to provide an exercising device which can be readily used by an occasional sportsman such as a golfer, tennis player and the like, to enhance the power and strength of his grip which in turn will aid or increase his proficiency in the play of any such game.

Another object is to provide an exercising device in which one's fingers, hands, wrists and forearms can be substantially strengthened by squeezing exercises in which blood circulation through the exercised parts is enhanced by imparting a vibratory motion to the squeezing device during exercise.

Another object is to provide an exerciser capable of relieving muscular tension or stress in the vital muscle areas of the body by imparting a vibratory movement to massage such areas.

Another object is to provide a combined squeeze exercising device and vibrator which is relatively simple in construction, which can be readily manufactured, and which is positive in operation.

Another object is to provide a compact squeeze exerciser and combined vibrator which is quiet in operation and which can be inconspicuously used by the sportsman at any time.

Another object is to provide a small, compact, and all-inclusive exercising device which can be neatly formed into a desk set whereby it is rendered readily available for immediate use by a busy sportsman.

SUMMARY OF THE INVENTION

The foregoing objects and other features and advantages of this invention are attained by an exercising device which comprises a housing in which there is an electrically driven vibrator. In accordance with this invention a portion of the housing is sized to include a small low-voltage battery by which the motor-driven vibrator can be energized, thereby rendering the exercising device portable, self-contained unit. Formed in the upper end of the housing is a means whereby a projection is detachably connected thereto. Mounted on the extended end of the projection is a resilient gripping means forming an exerciser that can be readily squeezed in performing the exercises for strengthening one's hands, wrists and forearms. By energizing of the vibrating means to impart a vibratory motion to the gripping means, the blood circulation through the exercised muscle portions is greatly enhanced to minimize tension and stress. If desired, various forms of gripping means may be interchangeably connected to the end of the housing so as to provide the proper attachment for conducting various types of squeezing exercises.

In one form of the invention the gripping means may comprise a ball for strengthening one's grip. In another form of the invention a pistol-type grip is provided for accommodating only the last three fingers of one's hands so that the gripping power of the last three fingers can thereby be enhanced. It has been determined that the grip or force with which the last three fingers are able to grip a golf club is of particular importance in the game of golf.

In another form of the invention the hand-gripping device may comprise a pair of spaced-apart gripping means whereby one may exercise both hands simultaneously, and in which case a complete vibratory circuit is transmitted through the entire body.

Preferably, the exerciser and vibrator can be conveniently utilized in combination with various types of desk sets so that the same is rendered readily accessible to a busy executive during business hours thereby enabling him to exercise even as he works in his office.

In a modified form of the invention the vibrator means comprises a lateral extension connected to the rotatable spindle of the electric motor. Connected to the end of the lateral extension is a weight. In operation the rotation of the weight eccentrically with respect to the rotatable axis of the motor imparts the desired vibratory motion to the exercising device connected to the end of the projection.

FEATURES

A feature of this invention resides in the provision of an exercising device having a resilient hand-squeezing, exercising means to which there is imparted a vibratory movement during the performance of the squeezing exercise to stimulate the exercising portions of the body.

Another feature of this invention resides in the provision of a vibratory exerciser that can be applied directly to various portions of the body to relieve muscle tension by applying a vibratory motion directly thereto.

Another feature of this device resides in the provision of an exerciser that comprises a complete, compact, readily portable operating device which can be used with equal facility in the office, home, car or any other place, public or private.

Another feature of this invention resides in the provision of an exercising device which can be constructed in combination with or used with various types of desk sets and/or desk accessories so as to be rendered readily available to a busy businessman.

Other features and advantages will become more readily apparent when considered in view of the drawings and specification in which:

FIG. 1 illustrates an exploded view of the exercising device of this invention having parts thereof shown in section.

FIG. 2 is a detail sectional view of a modified gripping or squeeze attachment adapted to be used on the exerciser of FIG. 1.

FIG. 3 is a detail view of another modified attachment adapted to be used on the exerciser of FIG. 1.

FIG. 4 illustrates a modified type of vibrator for use in the exerciser device.

FIG. 5 is a plan sectional view taken along line 5–5 on FIG. 4.

FIG. 6 is a perspective view of the exerciser of the present invention incorporated into a desk set.

In the play of sports, such as golf, tennis, baseball and the like, it has been determined that the strength of one's hands, wrists and forearms is important in increasing one's skill and proficiency in such endeavors. Because many players of the games of golf, tennis and the like do not play with the frequency and regularity necessary to achieve the desired strength of their hands and grip, a means **10** is hereby provided to strengthen one's hands, wrists and arms, which does not require the actual play of the game. In accordance with this invention the exercising device **10** is particularly adapted for use by the occasional sportsman at his place of work or business and which can be used in his leisure moments or at a break in the business routine. With the device **10** of this invention, it has been noted that such sportsman can greatly strengthen their hands, wrists and forearms to attain maximum proficien-

cy in the play of their chosen sports simply by utilizing the instant exerciser at frequent and regular intervals.

As shown in FIG. 1, the exercising device 10 comprises a housing 11 having an upper portion 12 and a lower portion 13. Disposed within the upper portion 12 is an electric motor 14, the armature or spindle 15 of which has connected to the free end thereof an eccentrically centered weight 16. It will be noted that whenever the motor 14 is energized, the eccentricity of the rotating weight 16 connected to the armature or spindle 15 imparts a vibratory movement to the exerciser 10.

Connected to the lower end of the upper housing 12 is a bracket 17 for supporting a battery 18, which forms a source of electrical power for energizing the motor. As shown, the bracket 17 supports the battery 18 so that it is connected in circuit to the motor. A suitable switch, in the form of a ring actuator 19, circumscribes the upper housing portion 12. The arrangement is such that the circuit to the motor 14 is closed by effecting rotation of the switch ring 19 in one direction and opened by rotation in the opposite direction.

The lower housing portion 13 comprises a cup-shaped member which is adapted to be fitted over the battery 18 and bracket 17 supporting the same. Complementary fastening means are formed on the respective housing portion for detachably connecting the two. In the illustrated form, complementary threads 20, 21 are formed on the adjacent ends of the upper and lower housing portions 12, 13 for detachably connecting the lower housing 13 to the upper housing portion 12.

In the upper end of the upper housing 12 there is provided a threaded or tapped opening 22 to which there is detachably connected a projection or stem 23 that extends outwardly therefrom. As seen in FIG. 1, there is secured to the upper end of the projection 23 a resilient gripping means. The resilient gripping means of FIG. 1 comprises an exercising ball 24 which is preferably formed of a hard, resilient rubberlike material. It is thus apparent that the sportsman is able to enhance his grip and the strength of his hands, wrists and arms by performing at a regular interval squeezing exercises by repeated acts of gripping and squeezing the hard, resilient rubber ball 24 on the end of the projection 23. In accordance with the invention such exercise is further enhanced by energizing the vibratory means 14 of the device. In this manner the fatigue of squeezing the gripping means 24 during exercise is minimized and thereby encourages the use of the device. In the form of the invention illustrated, the device 10 may be used so that the vibratory motion may be imparted to the gripping means 24 during the hand-squeezing exercises. It has been discovered that by imparting a vibratory motion to the exercising ball 24 during an exercising operation, that the tension in the muscles is relieved, thereby eliminating fatigue of the muscle parts and enabling the sportsman to increase the duration time of the exercise. Also with the device 10 described, the applying of the vibrator to the exercised muscles after exercise will effect immediate release of the tension formed therein.

In another form of the invention as viewed in FIG. 2, the exercising or gripping means 30 is specifically designed so as to enhance the strength in the last three fingers of one's hands, which it has been determined is critical in the play of the game of golf. By increasing the grip in the last three fingers of one's hands, it has been noted by the golf experts and professionals that one may grip the golf club or similar club with a greater force or strength, thereby avoiding the twisting of the club in one's hand as the ball is hit. In this manner the player is able to attain greater directional control and power over the ball when the ball is hit.

In this form of the invention the gripping means 30 comprises a projection 31 which can be readily threaded into the tap opening 22 of the housing 12 of the exercising device 10. Connected to the projection 31 is a hand grip 32 having a knurled portion 32A for accommodating the last three fingers of one's hands. As shown the hand grip 32 comprises a hollow resilient sleeve which is fitted over a core of hard, resilient rubberlike material 33. In the alternative the grip may be made as an integral unit of such hard resilient rubberlike material. Accordingly, the exercise of the fingers gripped about the hand grip is attained by squeezing the hand grip 32 with the finger curled therearound. With the hand grip 32 connected by its stem 31 to the housing 12 of the exercising device 10, it will readily be apparent that by energizing the vibratory means 14 a vibratory motion is imparted to the hand during a squeezing exercise to enhance the circulation of the blood therethrough.

FIG. 3 illustrates a further modified attachment adapted for use with the vibratory body or housing 12 of FIG. 1. In this form of the invention the projection 40 is formed with a forked or bifurcated end portion 41, 42 to which a resilient ball, or suitable handgrip 43, similar to that herein described, is connected. In this form of the invention it will be noted that each hand grip 43 can be gripped with each of one's hands so that both hands can be exercised simultaneously. Also when the vibratory means of the device is energized in this form of the invention during exercise, a complete vibratory circuit is transmitted through the body.

FIGS. 4 and 5 are directed to a modified form of vibrator 50 adapted to be used in the exercising device 51 as herein described. In this form of the invention it is to be noted that the vibrator 50 comprises a motor 52 having a rotatable spindle 53 to which there is connected a laterally extending arm or branch 54. Connected to the free end of the laterally offset arm portion 54 is a weight 55. Accordingly, as best seen in FIG. 5 it will be noted that the weight 55 is eccentrically disposed with respect to the axis of rotation of the motor spindle 53 by the distance of the lever arm or lateral extension 54. Accordingly, it will be noted that whenever the motor 52 is energized, the eccentricity of the weight about the axis of rotation of the motor spindle 53 imparts a vibratory motion of increased frequency to the device 51.

In order to render the exerciser and vibrator 10 or 51 of the instant invention readily accessible to busy executives interested in golf, tennis and similar sports, it is preferred that the same be utilized in conjunction with a desk set 60. As best seen in FIG. 3, such desk sets 60 generally comprise a stand 61 to which there is generally connected a well or holder 62 for receiving a pen 63 or the like. Formed in the stand 61 adjacent to the penholder 62 is an aperture or well 64 for receiving the bottom of the housing 13 of the exercising device 10 or 51.

In this manner the businessmen or executives who are sportsminded can exercise at work since such device 10 is readily available and easily accessible to them.

While the instant exerciser has been illustrated as being utilized in conjunction with a desk set 60 embodying a penholder, it will be readily understood and appreciated that the exercising device may be utilized in conjunction with any of the various desk accessories, thereby making it readily available to the busy, sportsminded executive during working hours.

As the device herein described has particular applicability for exercising to enhance one's proficiency in various sport activities, it will be readily understood that the instant device also has therapeutic application for improving the strength and/or dexterity of one's fingers, hands, wrists, and arms of a person afflicted with injuries, physical deformities and/or disabilities to such parts.

It will also be noted that the vibrating device 10 or 51 of the present invention can be utilized for imparting the soothing, tranquilizing vibration to various portions of the body, as for example the back of the neck, back and legs and other portions, to relieve tension and/or muscular aches and pains which result from overexercising, stress and strains.

Also while the battery illustrated is a dry cell type, it will be understood that rechargeable batteries may be utilized in lieu thereof.

While the instant invention has been described with respect to various embodiments thereof, it will be readily understood and appreciated that variations and modifications may be made without departing from the spirit or scope of the invention.

What we claim is:

1. A desk set exerciser comprising:
a stand,
a hand exercising device,
said exercising device including a housing having a top portion and a bottom portion,
said bottom portion being detachably connected to said top portion,
a motor means disposed within the top portion of said housing,
a source of electrical power connected in circuit with said motor,
a vibratory means disposed within said housing operatively connected to said motor means to impart a vibratory motion to said housing when said motor is energized,
said vibratory means including a motor spindle,
a weighted means in the form of a disc eccentrically connected to the end of said motor spindle,
means connected to said top portion of said housing for supporting a dry cell battery in electrical circuit with said motor means whereby said dry cell battery is disposed within said bottom portion,
a switch means mounted on the upper housing portion for energizing and deenergizing said motor means,
said upper housing portion having an integrally threaded opening in the upper end thereof,
a projection having a complementary threaded end portion arranged to be threaded to the threads of said opening,
a resilient gripping means connected to the extended end of said projection,
and said stand including means for supporting bottom of said housing on said stand when said exerciser is not in use,
wherein said gripping means includes an elongated hand grip having a finger grip portion for accommodating the last three fingers of one's hand whereby said fingers may be strengthened by squeezing exercise,
and said elongated hand grip including a hard, resilient core.

2. A desk set exerciser comprising:
a stand,

a hand exercising device,
said exercising device including a housing having a top portion and a bottom portion,
said bottom portion being detachably connected to said top portion,
a motor means disposed within the top portion of said housing,
a source of electrical power connected in circuit with said motor,
a vibratory means disposed within said housing operatively connected to said motor means to impart a vibratory motion to said housing when said motor is energized,
said vibratory means including a motor spindle,
a weighted means in the form of a disc eccentrically connected to the end of said motor spindle,
means connected to said top portion of said housing for supporting a dry cell battery in electrical circuit with said motor means whereby said dry cell battery is disposed within said bottom portion,
a switch means mounted on the upper housing portion for energizing and deenergizing said motor means,
said upper housing portion having an integrally threaded opening in the upper end thereof,
a projection having a complementary threaded end portion arranged to be threaded to the threads of said opening,
a resilient gripping means connected to the extended end of said projection,
and said stand including means for supporting bottom of said housing on said stand when said exerciser is not in use,
wherein said gripping means comprises an elongated solid core extending longitudinally of said projection, and
a hollow resilient sleeve fitted over said core,
said sleeve being sized to define a spacing between said core and an internal wall portion of said sleeve,
said sleeve having a knurled gripping portion for accommodating the last three fingers of one's hand,
said spacing defined within said sleeve being disposed adjacent said knurled portion so that said fingers can be exercised by squeezing the knurled portion of said sleeve toward said core.