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SPRING TYPE BUST DEVELOPER

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Fig. 1.

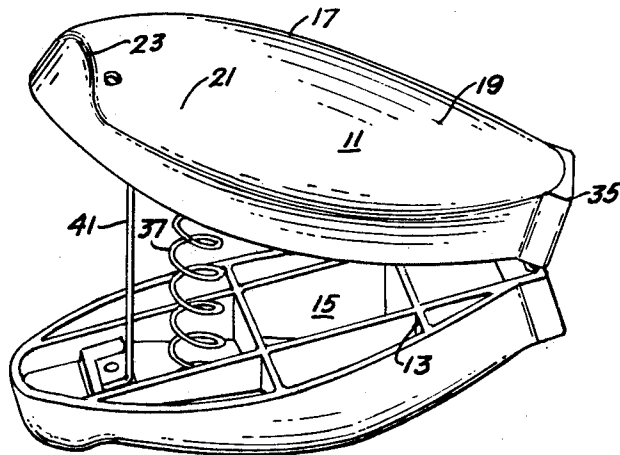


Fig. 2.

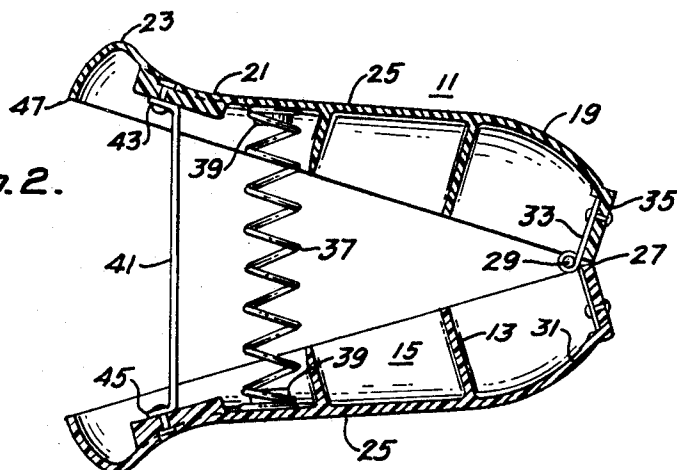
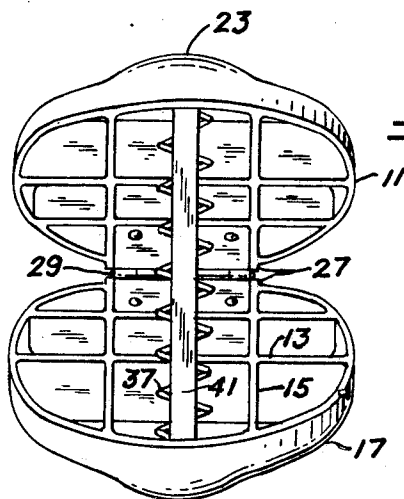


Fig. 3.



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SPRING TYPE BUST DEVELOPER

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4 Claims

ABSTRACT OF THE DISCLOSURE

An exerciser having two sculptured handgrips hinged at respective edges and urged apart by spring pressure, the handgrips providing generally planar surfaces disposed in generally parallel relation to permit the application of pressure generally normal to the surface of the handgrips.

BACKGROUND OF THE INVENTION

Field of the invention

This invention relates to exercising devices. More particularly it relates to a hand operated chest exerciser for developing the female bust.

DESCRIPTION OF THE PRIOR ART

Many types of hand operated exercising devices are known and used for developing the upper frontal chest muscles. Generally they are of two types: Those which offer resistance to being pulled apart and those which offer resistance to compression. However, very few of these exercisers are lightweight and relatively small in size. The device of the present invention relates to the latter type device, one which is compressed between the hands. Of those exercisers which are small and light, most must be tightly held by the handgrips which are usually round. The handgrips must be securely grasped by the fingers, wrapping around the grip, to prevent it from slipping or twisting while being operated.

There is a definite danger which exists when attempting to exercise the arms and chest by compressing an object which must be held in the hands close in front of the chest and prevented from twisting or slipping while it is operated. Generally, these exercisers are comprised of a bent spring steel rod or other powerful spring material. If the exerciser is of the type which must be grasped by the fingers during operation, to prevent twisting or slippage, and if the hands of the user are wet with sweat, a woman can easily lose her grip on the exerciser, or it might just slide in her hands until she loses control of it. At this point the spring rapidly expands and/or flies out of the hand with great force. As a result of this, she can be seriously bruised and injured. Generally the injuries will occur to the chest because of the exercisers proximity thereto during use. For women, it is even more critical than for men to avoid this type of accident and to prevent the possibility of injury to the chest because of the danger of breast cancer.

It is therefore necessary to provide an exerciser for women which is not dependent, during compression, upon the user being able to retain control of a pair of handgrips by virtue of the strength in her fingers or the dryness of her hands. An exerciser is required which has handgrips which will not slip out of the hands and which are easy to grasp between the palms of the hands; an exerciser which is very stable in operation and which has a configuration that reduces the possibility of chest injuries and yet is small and lightweight, easy to operate, and is an effective exercising device.

SUMMARY OF THE INVENTION

The present invention meets these requirements and effects the solution to these problems by providing a new and novel exerciser for developing the bust and which is

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comprised in part of a pair of slightly sculptured, generally planar, handgrips which can be securely compressed between the palms of the hands. A hinge means interconnects the handgrips at corresponding edges and a spring means urges the handgrips apart. A restraining means is provided for preventing the spring means for separating the handgrips beyond a certain angle of the incidence with respect to each other.

OBJECTS OF THE INVENTION

It is therefore an important object of the present invention to provide a new and novel exerciser for developing the female bust.

It is another object of the present invention to provide an exerciser which is lightweight and easy to use by women and greatly reduces the possibility of injury to the chest if it slips out of the user's hands.

It is a further object of the present invention to provide an exerciser which has generally planar handgrips which can be operated and controlled during compression mainly by the palms of the hands and permits the application of pressure to the handgrips generally normal thereto.

It is yet another object of the present invention to provide an exerciser which can be held between the palms of the hands and operated without the necessity of securely grasping the handgrips to prevent them from turning or twisting.

It is still a further object of the present invention to provide a exerciser which is stable enough to be operated by being held in the palm of one hand and pushed against a wall or other supported surface.

Other objects and advantages of the present invention will become apparent when the exerciser is considered in conjunction with the accompanying drawings.

DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a perspective view of a preferred embodiment of the exerciser for developing the female bust;

FIGURE 2 is a side elevation in section of the exerciser taken along lines 2—2 of FIGURE 3; and

FIGURE 3 is a front elevation of the preferred embodiment of the exerciser of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Reference is made to the drawings for a detailed description of a preferred embodiment of the present invention. An elemental and novel portion of the invention is a pair of slightly sculptured, generally planar, handgrips 11 which can be securely and confidently compressed between the palms of the hands.

The handgrips, in the preferred embodiment, are generally oval in configuration and preferably formed of a molded plastic. However, they can be of any oblong shape, such as rectangular, so long as they form a generally planar surface. They also can be made of a lightweight metal, or formed of fiber glass and epoxy, or made from other lightweight materials.

The exerciser is approximately 6¼ inches long and has a lateral width of approximately 4 inches. It is formed of a shell construction and is honeycombed with transverse and longitudinal internal supporting ribs 13, 15 and has a softly rounded external peripheral edge 17.

The exterior surface of each handgrip has a sculptured configuration which is characterized by a convex section 19 located near one end. This section reverses taper generally in the middle of the handgrip and forms a concave portion 21 near the free end thereof and terminates in a shallow ridge 23. The ridge provides a stop for the heels of the palms to prevent the handgrips from squeezing forward out of the hands when the hands are sweaty.

The external surfaces of the handgrips, between the convex sections and the ridges, form a pair of generally planar portions 25 on each of said handgrips which are disposed in generally parallel relation to each other when the exerciser is fully expanded. These planar portions permit the user to apply pressure to the handgrips substantially normal thereto. When the handgrips are collapsed together, the ridge 23 provides a surface area which is normal to the pressure exerted on the handgrips by the heels of the user's palms.

A hinge means interconnects the handgrips at corresponding edges 27 located at the ends of the oblong shell adjacent the convex sections. In the present invention, the hinge means comprises a simple flat, or plate, hinge 29 which secures to the internal side 31 of the handgrips. The flat mounting plates 33 of the hinge are secured to flat internal wall portions of the projecting box structures 35 at the ends of the shells. The axis of rotation of the hinge is disposed normal to the longitudinal axis of the handgrips. Flat hinges are used to provide a strong hinge means best adapted to resist the twisting and side loading which may be exerted upon the exercising device during use.

A spring means is used to urge the handgrips apart. A flat spring has been experimented with but did not work properly. The flat spring exerted too much pressure near the hinge and not enough out near the free ends of the handgrips. Therefore, the preferred embodiment of the present invention utilizes at least one coiled spring 37 mounted on opposing studs 39 which project from the internal sides 31 of the handgrips. The studs are disposed approximately two-thirds of the length of the handgrips from the hinged ends on a line normal to the hinge. The location of the spring places it under the area of applied pressure to reduce the need for heavy construction in the handgrips.

Many weights of springs were investigated to determine which is the most adaptable for universal use by most females. It was found that a coil spring characterized by approximately 14 gage (Roebbling) spring steel wire, having an approximate free length of 3½ inches and a coil diameter of approximately 1 inch, with 2 coils per inch, is the most preferable. To accommodate or to provide different strength exercisers, a larger coil spring, or coaxial springs, or a multiple spring arrangement could be utilized.

A restraining means is used to prevent the spring means from separating the handgrips beyond a certain angle of incidence with respect to each other. This is necessary because if the handgrips are permitted to separate too far, then the angle of pressure which must be exerted on the handgrips is not normal to the handgrips so that the hands might slip off the exerciser. It will be noted from FIGURE 2 that the generally planar portions of the outer surfaces of the handgrips, when at their full separation, are nearly parallel. Thus, pressure exerted by the palms of the hands can be applied almost normal to the generally planar portions of the handgrips thereby preventing the hands from slipping toward the hinged edge. The possibility of slippage is increased if the angle of incidence of the handgrips with respect to each other is permitted to be too great.

In the preferred embodiment of the invention, the restraining means comprises a resilient strap 41 which has its ends 43, 45 secured to the internal surfaces of the handgrips between the spring and the free ends 47 of the handgrips. The restraining member could be located at other positions between the handgrips, but, in order to permit it to be of the lightest weight possible, it is located near the outward end of the handgrips in order to lessen the mechanical advantage of the spring.

It has been found that approximately 32 degrees of incidence of the handgrips, with respect to each other, is desirable in an exerciser of the indicated proportions. This permits easily moldable curvatures in the outer surfaces of the handgrips to achieve the desired angular re-

lationships and provides the proper amount of exercising movement necessary to effect the greatest benefit from exercise.

It has been proven in many studies that only a small amount of resisted movement of the muscles, when they are in their flexed condition, gives the greatest amount of development to the muscle. It is this exercise which the present invention permits; working of the muscles when they are in their flexed condition.

One of the advantages of this invention is that one of the generally planar handgrips may be placed against a wall and then one arm exercised by compressing the handgrips together without fear of the exerciser slipping and the hand jamming against the wall. The exerciser is stable by virtue of its planar handgrips and will not slip or twist when backed by a planar surface.

Another important advantage of the exerciser is that it may be held in the hands close to the front of the chest and confidently operated without danger of injury because it is easy to grasp and control and it does not have sharp or square edges which would cause serious injury to a woman's breasts.

It is apparent from the foregoing description of the invention, in its preferred form, that it will fulfill all of the objects attributable thereto. While it has been illustrated and described in considerable detail, the protection is not to be limited to such details as have been set forth except as may be necessitated by the appended claims.

I claim:

1. An exerciser comprising a pair of sculptured handgrips having generally planar portions on each of said handgrips of sufficient width to prevent said handgrips from rotating when squeezed between the opposing palms of a user's hands simultaneously, said planar portions being disposed in generally parallel relation to each other when said exerciser is fully expanded permitting the application of pressure by the user substantially normal to the surface of said handgrips and to the curved portions on each of said handgrips whereby as said handgrips are compressed toward each other, the pressure by the user can be maintained substantially normal to the surface of the handgrips throughout the closing and opening cycles,

hinge means interconnecting said handgrips at corresponding ends,

spring means urging said handgrips apart, and

restraining means preventing said spring means from separating said handgrips beyond a certain angle of incidence with respect to each other,

said handgrips being generally oblong and the sculptured configuration thereof having a comfortable fit within the palms of the hands and against the heels of palms characterized by rounded edges about the periphery of said handgrips and convex sections near the hinged ends reversing taper generally in the middle of said handgrips into concave portions terminating in shallow sculptured ridges at the opposite ends from said hinged edges for abutting the heels of the palms.

2. An exerciser comprising a pair of sculptured handgrips having generally planar portions on each of said handgrips of sufficient width to prevent said handgrips from rotating when squeezed between the opposing palms of a user's hands simultaneously, said planar portions being disposed in generally parallel relation to each other when said exerciser is fully expanded permitting the application of pressure by the user substantially normal to the surface of said handgrips and to the curved portions on each of said handgrips whereby as said handgrips are compressed toward each other, the pressure by the user can be maintained substantially normal to the surface of the handgrips throughout the closing and opening cycles,

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hinge means interconnecting said handgrips at corresponding ends,
spring means urging said handgrips apart, and
restraining means preventing said spring means from separating said handgrips beyond a certain angle of incidence with respect to each other,
said handgrips being approximately 6¼ inches long and 4 inches wide and forming a shell construction and said spring means comprising at least one coiled spring mounted on opposing studs projecting from the internal sides of said handgrips disposed approximately two-thirds the length of said handgrips from said hinged ends.

3. An exerciser comprising a pair of sculptured handgrips having generally planar portions on each of said handgrips of sufficient width to prevent said handgrips from rotating when squeezed between the opposing palms of a user's hands simultaneously, said planar portions being disposed in generally parallel relation to each other when said exerciser is fully expanded permitting the application of pressure by the user substantially normal to the surface of said handgrips and to the curved portions on each of said handgrips whereby as said handgrips are compressed toward each other, the pressure by the user can be maintained substantially normal to the surface of the handgrips throughout the closing and opening cycles,

hinge means interconnecting said handgrips at corresponding ends,

spring means urging said handgrips apart, and
restraining means preventing said spring means from separating said handgrips beyond a certain angle of incidence with respect to each other,

said spring means being characterized by a coiled spring of approximately 14 gage spring steel wire having an approximate free length of 3½ inches and an approximate coil diameter of 1 inch with approximately 2 coils per inch.

4. An exerciser comprising a pair of sculptured generally oblong handgrips having outer surfaces characterized by rounded edges about the periphery of said handgrips and each of said handgrips having a convex section at one end reversing taper generally in the middle of said handgrips into a concave portion terminating in a shallow sculptured ridge at the opposite end from

hinged edges with a planar portion disposed between said convex section and concave portion and said ridge of the pair of handgrips, said planar portions being in generally parallel relation to each other when said handgrips are fully separated permitting the application of pressure by the user substantially normal to the surface of said handgrips and the curved portions on each of said handgrips whereby as the handgrips are compressed toward each other, the pressure by the user can be maintained substantially normal to the surface of the handgrips throughout the closing and opening cycles, said handgrips being approximately 6¼ inches long and 4 inches wide and formed of a shell construction,

a plate hinge interconnecting corresponding ends of said handgrips adjacent said convex sections and having its axis of rotation normal to the longitudinal axis of said handgrips,

at least one coiled spring mounted on opposing studs projecting from the internal sides of said handgrips and disposed approximately two-thirds the length of said handgrips from said hinge on a line normal thereto, said coil spring being characterized by approximately 14 gage spring steel wire having an approximate free length of 3½ inches in an approximate coil diameter of 1 inch with approximately 2 coils per inch, and

a resilient strap having its ends secured to the internal surfaces of said handgrips between said spring and the free ends of said handgrips for preventing the spring from separating the said handgrips beyond approximately 32 degrees of incidence with respect to each other.

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