A virtual jump rope device includes a pair of virtual jump rope units, each of the units being elongated and having a first end and a second end, each of the units having a handle portion at its first end, the handle portion having a predetermined length, and being adapted for manual gripping, the handle portion having an outer end and an inner end; a middle portion connected to the inner end of the handle portion and extending therefrom, the middle portion having a length greater than the predetermined length of the handle portion; and, a weight portion connected to the middle portion remotely from the handle portion, the weight portion having a weight greater than at least an ounce, and at least two ounces. The virtual jump rope middle portion may be selected from the group consisting of rope, cord, strip, chain and braid. The weight portion may include a dense inner member and an impact cushioning outer member. Preferred embodiments include a rotatable interconnector which includes ball bearings.
VIRTUAL JUMP ROPE DEVICE
BACKGROUNDS OF THE INVENTION

[0001] Field of the Invention

[0002] The present invention relates to exercise devices, and more specifically to jump ropes used for training and exercise. Jump roping has existed for hundreds of years and its physical benefits as an aerobic exercise is undisputed. The present invention virtual jump rope device involves a pair of units, each having a handle, a flexible middle portion, and a weight. These units enable a user to benefit from jump roping exercises while eliminating hazards and restrictions normally associated with jump roping.

[0003] Information Disclosure Statement

[0004] The following patents represent various types of devices with handles and flexible connections:

[0005] U.S. Pat. No. 3,323,796 describes a jousting apparatus comprising two sticks joined together with an universally flexible rope-like connecting member well anchored within the respective stick ends and having the portion intermediate its anchored ends which is long enough to allow multiple angular, linear and rotary relative motions of the respective anchoring stick ends, wherein said flexible rope-like connecting member portion is about five stick diameters in length and the overall stick length is about thirty-eight stick diameters in length, said stick length approaching a jousting participant's waist height.

[0006] U.S. Pat. No. 3,454,274 describes an apparatus for teaching a youngster the art of self-defense. The device comprises two elongated handle members secured together at one end by an elastic cord. The handle members have noise making devices at their free ends.

[0007] U.S. Pat. No. 3,608,899 describes a hand weapon, generally similar in usage to a nightstick or baton, comprising two rigid elongated members, each connected to one end to the other by a nonrigid element such as a length of chain, whereby each member may swing relatively independent of the other, within the limitation imposed by the chain with respect to separation of the connected ends of said members, each member being provided with a hand-gripping portion adjacent the free end thereof whereby one member may be grasped in each hand and utilized in cooperation with each other, or either member may be grasped and the other member permitted to swing loosely.

[0008] U.S. Pat. No. 3,934,877 describes an invention that related to a police weapon comprised of two rigid elongated sticks joined at one end by a flexible thong to enable disposing them side by side when the weapon is not being used but to permit whirling one about the other is used and especially to making the sticks if rigid and relatively flexible portions to make the weapon less lethal in use.

[0009] U.S. Pat. No. 4,018,441 describes a training exercise device combining a jump-rope with a pair of hand covering elements, such as boxing training gloves, mittens or the like, provided with means for releasably connecting one end of the jump-rope to each of the hand covering elements.

[0010] U.S. Pat. No. 4,593,899 describes a jumping rope for exercising including resiliently flexible handles for adjustably altering the moment of force imposed upon the user by the swinging rope. The jump rope construction includes evenly extended handles at each thereof. The interval between the extended handles and a ball bearing assembly within which the rope is secured comprises a resilient member which will vary the torsional force along its longitudinal axis. The rope is joined to the handle section by a ball bearing assembly which is recessed from the handle shoulder. The handle section adjacent the rope is a terminal coupling and has a tapered cross-section at the shoulder thereof to reduce the friction between the rope and the shoulder of the handle section. The opposite end of the receiving handle section is joined to a mating extension which resiliently bends along its longitudinal axis and can be easily gripped by the user. The flexibility of the resilient member is in response to the rate of rotation of the rope and thereby changing the effective distance between the user's hand and the point at which the force of the swinging rope will be applied to the handle.

[0011] U.S. Pat. No. 4,934,691 describes a length of rope of the type utilized in a present jump rope, with an extended handle portion at each end of the length of rope. Each of the handle members would comprise a main cylinder having bore throughout its length, with the length of the rope threaded through the bore. Intermediate the rope body and the wall and the handle, there would be provided a resilient spring member extending substantially the length of the handle, and, with the end of the rope extending out of and secured to the distal end of the spring, with the proximal end of the spring secured within the handle, so that pulling the handles away from one another compresses the coil springs and establishes an exercise force of the user.

[0012] Notwithstanding the prior art, the present invention is neither taught nor rendered obvious thereby.

SUMMARY OF THE INVENTION

[0013] The present invention is a virtual jump rope device that includes a pair of virtual jump rope units. Each of the units is elongated and has a first end and a second end. Each of the units has a handle portion at its first end, a middle portion and a weight portion at its second end. The handle portion has a predetermined length, and is adapted for manual gripping. The middle portion is connected to an end of the handle portion and extends therefrom. The middle portion has a length greater than the predetermined length of the handle portion.

[0014] The weight portion is connected to the middle portion remotely from the handle portion. The weight portion has a weight greater than at least 1 ounce, and it may be permanently attached to the middle portion or removably attached thereto. The weight portion preferably has a weight greater than 3 ounces and may be heavier than 5 pounds. Most users would be very uncomfortable with weights greater than 6 pounds, and the weight choice could be made by the user. Thus, different weight sizes and middle portion lengths may be offered to permit users to try out different sizes and to increase sizes and/or weights with experience.

[0015] The handle may be made of wood, plastic, metal or other strong material, or combinations thereof. The middle portion may be selected from the group consisting of rope, cord, strip, chain and braid. In some preferred embodiments, the middle portion is made of material selected from the
group consisting of natural material, synthetic material, and combinations thereof. In some preferred embodiments, the middle portion is made of rope, may be natural rope, synthetic rope, or combinations thereof. It could be flat strip material, cordage, circular, hexagonal, or other formed cross-sectional elongation. It preferably may be an extruded synthetic material.

The present invention virtual jump rope middle portion has a predetermined length of about 8 inches to about 36 inches. The virtual jump rope middle portion has a preferred predetermined length of about 16 inches to about 26 inches. The virtual jump rope weight portion may be metal or other dense material, and, although not required, for safety reasons it may include a dense inner member and an impact cushioning outer member. This impact cushioning outer member may be a plastic coat, a leather cover, a foam layer, a rubber layer or other similar material, but compressible foam layer is preferred.

In some preferred embodiments, the present invention virtual jump rope further includes a rotatable interconnector located between the handle portion and the middle portion, said interconnector permitting 360° rotation about an axis of that middle section relative to the handle section. The interconnector could be a universal joint, a simple single axis free connection, e.g., a rope and a washer, or other device that would permit rotation. On some preferred embodiments, the rotatable interconnector includes ball bearings, e.g., encased in an annular arrangement, for extremely smooth, fast rotation of an axle to which the middle portion may be attached.

In some embodiments, the present invention virtual jump rope weight portion is removably attached to the middle portion, e.g., by hook, clip, screw, or other fastener. Preferably, there are a plurality of middle portion weights and are interchangeable with another. Thus, a user may start out with lighter weights and increase the weight over time, or may try out different weights to select the one most comfortable.

In other embodiments, the present invention virtual jump rope handle portion is hollow and the middle portion is partially slidably mounted therein so as to be adjustable as to the length of middle portion external from the handle. The handle portion preferably includes a clutch for engagement to prevent movement, and disengagement to allow movement of the middle portion. This allows the device to be used with the middle portion fully extended in one direction for jumping exercises, or even extended from both ends of the handle for wrist and arm exercises.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention should be more fully understood when the specification herein is taken in conjunction with the drawings appended hereto wherein:

The features of the present invention, which are believed to be novel are set forth with particularity in the appended claims. The invention may best be understood by reference to the following description taken in conjunction with accompanying drawings, wherein like reference numerals identifying like elements and wherein:

FIG. 1 shows a front view of a pair of units of the present invention virtual jump rope device;

FIG. 2 shows a front cut partial view of another embodiment of one unit of a present invention virtual jump rope with a rotatable connector between the handle portion and the middle portion;

FIGS. 3 and 4 show a present invention virtual jump rope device in use showing the user at the top and bottom of the rotational circles of the device, respectively.

FIG. 5 illustrates a unit of present invention virtual jump rope with an adjustable middle portion and in its virtual jump roping mode; and,

FIG. 6 shows the device of FIG. 5 with a balance middle portion, with equal lengths thereof at opposite sides of the handle portion for small, weighted manual circular movement for hand, wrist, and arm exercises.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

The present invention device is a jump rope device with two separate units which do not reach the floor when held by a user and provide safety and versatility which cannot be achieved by conventional jump ropes. For example, the present invention device cannot cause tripping, will not beat on a carpet or floor, is substantially silent, and may be used in smaller areas than a jump rope. Further, the present invention device allows for different arm and elbow angles and speeds. It provides for weighted use for increased strength and muscle tone and may be used with or without actual jumping. Additionally, in some embodiments, it may be used in hand and arm exercises other than jump roping exercises. Referring now, specifically to FIG. 1, there is shown a front view of a pair of preferred units of the present invention virtual jump rope device one. Handle portions 3 and 5 are connected to flexible middle portions 15 and 17, respectively. At the ends of flexible middle portions 15 and 17 are weights 19 and 21, as shown. Handle portions 3 and 5 have outer ends 7 and 9 and inner ends 11 and 13. A user would hold the handle portions and physically move in a fashion identical to jump roping exercises. Thus, the jumper would rotate the devices in circles and would be at the peak of each jump when the weights are closest to the floor. Slower and faster jumping exercises as well as crossovers and doubles could be preferred. Further, extended arm and various elbow and arm angle rotations may be performed.

Although not essential to the invention, it is preferred that the middle portion be rotatable relative to the handle portion. One illustration of the feature is shown in FIG. 2 wherein virtual jump rope unit 31 is partially shown in a partially cut front view. Handle portion 33 includes an inner end which contains an encapsulation 35, a ball bearing pack 37, and a rotating shaft 39 with eyelet 41 for attachment to flexible middle portion 43. Flexible middle portion 43 contains weight portion 45 at its opposite end, with a dense foam outer coating 47 to minimize impact damage.

Although the weight portion is shown in FIG. 2 to be spherical and in FIG. 1 to be bell shaped, any shape may be employed. In some embodiments, the weight portion may take the form of a novelty item or company icon. For example, it could take the form of a small boxing glove, a golf ball, a tennis ball, a baseball, a soccer ball, a football, a peanut, a medallion, one of a pair of dice, a pyramid, a miniature bottle of Coca-Cola, etc.
FIGS. 3 and 4 show a present invention embodiment wherein in FIG. 3 the user is at the top of the rotational circle and, in FIG. 4, the user is at the top of the jump with the present invention units at the bottom of the rotational circles. In both Figures, identical elements are identically numbered. Thus, athlete/user 51 is holding handle portions 63 and 73 of units 61 and 71 in both FIG. 3 and FIG. 4. Units 61 and 71 have flexible middle portions 65 and 75 and weights 67 and 77. In this case, the weights are 1 to 2 pounds. In FIG. 3 athlete/user 51 is standing on the floor and rotating the units like a jump rope, at the top of the rotation, and in FIG. 4, at the bottom of the jump.

FIG. 5 illustrates a unit of present invention virtual jump rope with an adjustable middle portion and in its virtual jump roping mode; and, FIG. 6 shows the device of FIG. 5 with a balance middle portion, with equal lengths thereof at opposite sides of the handle portion for small, weighted manual circular movement for hand, wrist, and arm exercises. Identical components in both Figures are identically numbered.

Handle 103 of present invention device unit 101 is hollow and has contained therein a slidable middle portion 105 with weights 107 and 111 at opposite ends thereof. In FIG. 5, middle portion 105 is fully extended to the right, and is utilized in pairs, in a fashion similar to units 61 and 71 described in conjunction with FIGS. 3 and 4 above. Clutch button 109 has a locking position and an unlocking position wherein it acts as a clutch to grip middle portion 105 or not grip middle portion 105. When button 109 is unlocked, middle portion 105 may be pushed into handle 103 so that a section 105 thereof, shown in FIG. 6, extends out the other end of handle 103. This is done so that the two oppositely protruding sections are of equal lengths. Button 109 is then locked, and the user may hold the handle 103 in hand 110, as shown and move the handle 103 in small circles away from and towards the body so as to create rotation of the weights 107 and 111. This may be done in small circles or large circles and will strengthen the upper arms, lower arms, and wrists. Thus, these types of units of the present invention may be used both for jumping exercises and other types of exercises.

Obviously, numerous modifications and variations of the present invention are possible in light of the above teachings. It is therefore understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described herein.

What is claimed is:
1. A virtual jump rope device, comprising:
   a pair of virtual jump rope units, each of said units being elongated and having a first end and a second end, each of said units having:
   a) a handle portion at its first end, said handle portion having a predetermined length, and being adapted for manual gripping, said handle portion having an outer end and an inner end;
   b) a middle portion connected to the inner end of said handle portion and extending therefrom, said middle portion having a length greater than the predetermined length of said handle portion; and,
   c) a weight portion connected to said middle portion remotely from said handle portion, said weight portion having a weight greater than at least 1 ounce.
2. The virtual jump rope of claim 1 wherein said middle portion is selected from the group consisting of rope, cord, strip, chain and braid.
3. The virtual jump rope of claim 2 wherein said middle portion is of material selected from the group consisting of natural material, synthetic material, and combinations thereof.
4. The virtual jump rope of claim 2 wherein said middle portion is a rope, and is of material selected from the group consisting of natural rope, synthetic rope, and combinations thereof.
5. The virtual jump rope of claim 2 wherein said middle portion is an extruded synthetic material.
6. The virtual jump rope of claim 1 wherein said middle portion has a predetermined length of about 8 inches to about 36 inches.
7. The virtual jump rope of claim 6 wherein said middle portion has a predetermined length of about 16 inches to about 26 inches.
8. The virtual jump rope of claim 1 wherein said middle portion has a predetermined length of about 16 inches to about 26 inches.
9. The virtual jump rope of claim 1 wherein said weight portion includes a density inner member and an impact cushioning outer member.
10. The virtual jump rope of claim 9 wherein said impact cushioning outer member is a compressible foam layer.
11. The virtual jump rope of claim 1 wherein said further includes:
   (d) a rotatable interconnector located between said handle portion and said middle portion, said interconnector permitting 360° rotation about an axis of said middle section relative to said handle section.
12. The virtual jump rope of claim 11 wherein said rotatable interconnector includes ball bearings.
13. The virtual jump rope of claim 1 wherein said weight portion is removably attached to said middle portion.
14. The virtual jump rope of claim 13 wherein said there are a plurality of weight portions having different weights and are interchangeable with one another.
15. The virtual jump rope of claim 1 wherein said handle portion is hollow and said middle portion is partially slidably mounted therein so as to be adjustable as to the length of middle portion external from said handle.
16. The virtual jump rope of claim 15 wherein said handle portion includes a clutch for engagement to prevent movement, and disengagement to allow movement, of said middle portion.
17. The virtual jump rope of claim 16 wherein said middle portion includes a weight portion at both ends thereof.
18. The virtual jump rope of claim 17 wherein said weight portions are small enough in size to fit within said hollow handle portion.
19. The virtual jump rope of claim 17 wherein said weight portions are removably attached to said middle portion.
20. The virtual jump rope of claim 18 wherein said weight portions are removably attached to said middle portion.