LOAD-DISTRIBUTION CUSHION PADDING FOR ENGAGING AROUND A BAR OF A WEIGHT-LIFTING DEVICE AND FOR CRADLING AND PROTECTING THE CERVICAL SPINE OF A WEIGHTLIFTER BY ABSORBING SHOCK FROM THE BAR OF THE WEIGHT-LIFTING DEVICE WHILE THE WEIGHT-LIFTER IS DOING A SQUAT EXERCISE

Inventor: Daniel Torres, New York, NY (US)

Correspondence Address:
CHARLES E. BAXLEY, ESQUIRE
90 JOHN STREET, SUITE 309
NEW YORK, NY 10038 (US)

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(57) ABSTRACT
A load-distribution cushion padding for engaging around a bar of a weight-lifting device and for cradling and protecting the cervical spine of a weight-lifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise. The padding includes a tube and a ring. The tube engages around the bar of the weight-lifting device. The ring surrounds a portion of the tube and cradles and protects the cervical spine of the weight-lifter by absorbing the shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise. The tube is made of molded thick foam of varying degrees of open and closed foam, thicknesses, and densities. The ring is made of a shock-absorbing low-density foam. The tube has a central portion containing a circumferential groove. The ring fills the circumferential groove in the central portion of the tube, and forms therewith, a shock-absorbing tube. The shock-absorbing tube has an axial slot completely therealong, which receives the bar of the weight-lifting device.
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1. BACKGROUND OF THE INVENTION

[0001] A. Field of the Invention

[0002] The embodiments of the present invention relate to a cushion padding, and more particularly, the embodiments of the present invention relate to a load-distribution cushion padding for engaging around a bar of a weight-lifting device and for cradling and protecting the cervical spine of a weightlifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise.

[0003] B. Description of the Prior Art

[0004] The prior art has tried to solve the need for safety and comfort while performing power building exercises, i.e., squats, by using a restrictive harness that was not safe or comfortable. Prior present art has tried to solve the need for safety and comfort while performing power building exercises, i.e., squats, by using a simple thin foam usually 1/4" to 3/4" of single density polyethylene, which offers little in comfort and promotes compression of the upper vertebrae by allowing all the weight to rest on the spine.

[0005] Numerous innovations for weight-lifting cushioning devices have been provided in the prior art that will be described below in chronological order to show advancement in the art, and which is incorporated herein by reference thereto. Even though these innovations may be suitable for the specific individual purposes to which they address, however, they differ from the present invention in that they do not teach a load-distribution cushion padding for engaging around a bar of a weight-lifting device and for cradling and protecting the cervical spine of a weightlifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise.

(1) U.S. Pat. No. 3,679,107 to Perrine.

[0006] U.S. Pat. No. 3,679,107 issued to Perrine on Jul. 25, 1972 in class 224 and subclass 5 P teaches a weight lifting yoke for shoulder use. The weight is distributed over the shoulders of the wearer and off center of the end of the spinal column.

(2) U.S. Pat. No. 4,213,605 to McPeak.

[0007] U.S. Pat. No. 4,213,605 issued to McPeak on Jul. 22, 1980 in class 272 and subclass 119 teaches a weightlifter’s protective gear adapted to releasably support a barbell assembly behind the neck and adjacent above the shoulders during exercises. Specifically, the gear includes a pair of cushion-lined shield straddling the neck and fitting snugly against the shoulders and the upper front and back body areas of the subject, in combination with an upwardly extending notched projection or projections on the shoulder portions of the shield for supporting the barbell shaft, whereby the entire weight of the assembly is uniformly distributed over the shoulders.

(3) U.S. Pat. No. 4,722,524 to Waszkelewicz.

[0008] U.S. Pat. No. 4,722,524 issued to Waszkelewicz on Feb. 2, 1988 in class 272 and subclass 123 teaches a weight lifting including an elongated member that can be worn by a lifter either (a) across the shoulders for use in lifting a barbell on the shoulders, in which case the aid redistributes the weight laterally away from the nape of the neck, or (b) across the abdomen for use doing arm curls.

(4) U.S. Pat. No. 5,342,272 to Pittoff

[0009] U.S. Pat. No. 5,342,272 issued to Pittoff on Aug. 30, 1994 in class 482 and subclass 106 teaches a weight lifting device that removably snaps to the bar of a barbell and provides a support for resting the device and essentially all of the weight of the barbell on the trapezius upper back muscles of weight lifters. The device has a laterally extending body that is operable to be placed across the back of a weight lifter, a bar securing apparatus disposed on its top, and a centrally disposed and downwardly extending lobe on the back of the device. The lobe, along its inner surface, is operable to rest essentially the entire weight of the barbell on the trapezius upper back muscles of a weight lifter. The preferred embodiment includes a lobe having a convexly curved inner surface that is curved to generally mate with the trapezius upper back muscles in the valley between the left and right sides of the muscles.

(5) U.S. Pat. No. 5,891,003 to Deac et al.

[0010] U.S. Pat. No. 5,891,003 issued to Deac et al. on Apr. 6, 1999 in class 482 and subclass 106 teaches an exercise device for exercising the lower body of a person, including an elongated spring bar that may or may not be provided with weights at the ends. A protective collar is provided centrally of the bar to permit the user to support the bar on the shoulders or on the back. The user springs up and down between an erected and squat position and the bar oscillates in phase with the user’s movements so that in the squat position the bar forms a tension arc, with the ends pointed downwardly while storing spring energy. As the user begins his upward movement, the rebound of the bar adds initially additional pressure on the participating muscles after which, as the tension is released and the user moves toward an erect position, the further rebound of the bar will enhance the upward movement.

(6) U.S. Pat. No. 6,371,893 to Redden.

[0011] U.S. Pat. No. 6,371,893 issued to Redden on Apr. 16, 2002 in class 482 and subclass 105 teaches a body-supported carrying device for increasing the comfort for a weightlifter. The body-supported carrying device includes a pair of body-supported carrying members, each of which includes a base member that is attached to an inverted U-shaped structure and which has an inner side and a pair of spaced extended portions, and which further includes a padded member securely attached to the inner side between the extended portions, and which also includes a weight-lifting bar support member including a stub shaft that is pivotally mounted in a top of the base member and which has a longitudinal slot extending through a second end of the stub shaft. The slot is adapted to receive a portion of a weight-lifting bar and the extended portions of the U-shaped structure is adapted to fit about a user’s legs and shoulders.

(7) U.S. Pat. No. 6,652,431 to Mattox.

[0012] U.S. Pat. No. 6,652,431 issued to Mattox on Nov. 25, 2003 in class 482 and subclass 139 teaches a squat exercising hook harness including a pair of generally parallel aligned bars interconnected and spaced by a joining member to accommodate the neck of a person therebetween. The aligned bars, each include bends therein defining a base section and a chest section. The chest sections are spaced by the base sections from the joining member. The base sections
define a base plane and the chest sections form an obtuse angle in combination with the base sections. Each free end of the chest sections has an upturned portion at the end. A T-member has a leg and a cross bar connected to a first end of the leg. A second end of the leg is connected to a midpoint of the joining member so that the T-member extends from the joining member in an inverted fashion and defines an angle between the range of 60 degrees to 120 degrees with the base plane.

It is apparent that numerous innovations for weight-lifting cushioning devices have been provided in the prior art that are adapted to be used. Furthermore, even though these innovations may be suitable for the specific individual purposes to which they address, however, they would not be suitable for the purposes of the embodiments of the present invention as hereinafter described, namely, a load-distribution cushioning device for engaging around a bar of a weight-lifting device and for cradling and protecting the cervical spine of a weightlifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise.

2. SUMMARY OF THE INVENTION

Thus, an object of the embodiments of the present invention is to provide a load-distribution cushioning device for engaging around a bar of a weight-lifting device and for cradling and protecting the cervical spine of a weightlifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise, which avoids the disadvantages of the prior art.

Briefly stated, another object of the embodiments of the present invention is to provide a load-distribution cushioning device for engaging around a bar of a weight-lifting device and for cradling and protecting the cervical spine of a weightlifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise. The cushioning device includes a tube and a ring. The tube engages around the bar of the weight-lifting device. The ring surrounds a portion of the tube and cradles and protects the cervical spine of the weightlifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise. The tube is made of molded thick foam of varying degrees of open and closed foam, thicknesses, and densities. The ring is made of a shock-absorbing low-density foam. The tube has a central portion containing a circumferential groove. The ring fills the circumferential groove in the central portion of the tube, and forms therewith, a shock-absorbing tube. The shock-absorbing tube has an axial slot completely therealong, which receives the bar of the weight-lifting device.

The novel features considered characteristic of the embodiments of the present invention are set forth in the appended claims. The embodiments of the present invention themselves, however, both as to their construction and their method of operation together with additional objects and advantages thereof will be best understood from the following description of the specific embodiments when read and understood in connection with the accompanying drawings.

3. BRIEF DESCRIPTION OF THE DRAWING

The figures of the drawing are briefly described as follows:

FIG. 1 is a diagrammatic perspective view of the load-distribution cushion padding of the embodiments of the present invention engaging around a bar of a weight-lifting device and cradling and protecting the cervical spine of a weightlifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise;

FIG. 2 is an enlarged diagrammatic cross sectional view taken along LINE 2-2 in FIG. 1; and

FIG. 3 is a diagrammatic cross section view taken along LINE 3-3 in FIG. 2.

4. LIST OF REFERENCE NUMERALS UTILIZED IN THE DRAWING

A. General

10 load-distribution cushion padding of embodiments of present invention for engaging around bar 12 of weight-lifting device 14 and for cradling and protecting cervical spine 16 of weightlifter 18 by absorbing shock from bar 12 of weight-lifting device 14 while weightlifter 18 is doing squat exercise

12 bar of weight-lifting device 14

14 weight-lifting device

16 cervical spine of weightlifter 18

18 weightlifter

B. Configuration

20 tube for engaging around bar 12 of weight-lifting device 14

22 ring for cradling and protecting cervical spine 16 of weightlifter 18 by absorbing shock from bar 12 of weight-lifting device 14 while weightlifter 18 is doing squat exercise

24 central portion of tube 20

26 circumferential groove in central portion 24 of tube 20

28 shock-absorbing tube

30 axial slot for receiving bar 12 of weight-lifting device 14

5. DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A. General

Referring now to the drawings, in which like numerals indicate like parts, and particularly to FIG. 1, which is a diagrammatic perspective view of the load-distribution cushion padding of the embodiments of the present invention engaging around a bar of a weight-lifting device and cradling and protecting the cervical spine of a weightlifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise, the load-distribution cushion padding of the embodiments of the present invention is shown generally at 10 for engaging around a bar 12 of a weight-lifting device 14 and for cradling and protecting the cervical spine 16 of a weightlifter 18 by absorbing shock from the bar 12 of the weight-lifting device 14 while the weight-lifter 18 is doing a squat exercise.

B. Configuration

The configuration of the load-distribution cushion padding 10 can best be seen in FIGS. 2 and 3, which are, respectively, an enlarged diagrammatic cross sectional view taken along LINE 2-2 in FIG. 1, and a diagrammatic cross section view taken along LINE 3-3 in FIG. 2, and as such, will be discussed with reference thereto.
The load-distribution cushion padding 10 comprises a tube 20. The tube 20 is for engaging around the bar 12 of the weight-lifting device 14.

The load-distribution cushion padding 10 further comprises a ring 22. The ring 22 surrounds a portion 24 of the tube 20 for cradling and protecting the cervical spine 16 of the weight-lifter 18 by absorbing shock from the bar 12 of the weight-lifting device 14 while the weight-lifter 18 is doing a squat exercise.

The tube 20 is made of molded thick foam of varying degrees of open and closed foam, thicknesses, and densities.

The ring 22 is made of a shock-absorbing low-density foam.

The tube 20 has a central portion 24. The central portion 24 of the tube 20 contains a circumferential groove 26.

The ring 22 fills the circumferential groove 26 in the central portion 24 of the tube 20, and forms therewith, a shock-absorbing tube 28.

The shock-absorbing tube 28 has an axial slot 30. The axial slot 30 extends completely along the shock-absorbing tube 28 and is for receiving the bar 12 of the weight-lifting device 14.

C. Conclusions

It will be understood that each of the elements described above or two or more together may also find a useful application in other types of constructions differing from the types described above.

While the embodiments of the present invention have been illustrated and described as embodied in a load-distribution cushion padding for engaging around a bar of a weight-lifting device and for cradling and protecting the cervical spine of a weightlifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise, however, they are not limited to the details shown, since it will be understood that various omissions, modifications, substitutions, and changes in the forms and details of the embodiments of the present invention illustrated and their operation can be made by those skilled in the art without departing in any way from the spirit of the embodiments of the present invention.

Without further analysis the foregoing will so fully reveal the gist of the embodiments of the present invention that others can by applying current knowledge readily adopt them for various applications without omitting features that from the standpoint of prior art fairly constitute characteristics of the generic or specific aspects of the embodiments of the present invention.

1. A load-distribution cushion padding for engaging around a bar of a weight-lifting device and for cradling and protecting the cervical spine of a weight-lifter by absorbing shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise, comprising:
   a) a tube; and
   b) a ring:
      wherein said tube is for engaging around the bar of the weight-lifting device; and
      wherein said ring surrounds a portion of said tube for cradling and protecting the cervical spine of the weight-lifter by absorbing the shock from the bar of the weight-lifting device while the weight-lifter is doing a squat exercise.

2. The padding of claim 1, wherein said tube is made of molded thick foam of varying degrees of open and closed foam, thicknesses, and densities.

3. The padding of claim 1, wherein said ring is made of a shock-absorbing low-density foam.

4. The padding of claim 1, wherein said tube has a central portion;
   wherein said central portion of said tube contains a circumferential groove.

5. The padding of claim 4, wherein said ring fills said circumferential groove in said central portion of said tube, and forms therewith, a shock-absorbing tube.

6. The padding of claim 5, wherein said shock-absorbing tube has an axial slot;
   wherein said axial slot extends completely along said shock-absorbing tube; and
   wherein said axial slot is for receiving the bar of the weight-lifting device.