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**Selburg**

(54) **VOLLEYBALL TRAINING DEVICE**

(76) Inventor: **Eric R. Selburg**, Lindenhurst, IL (US)

Correspondence Address:
**Meroni & Meroni, P.C.**
**P.O. Box 309**
**Barrington, IL 60011 (US)**

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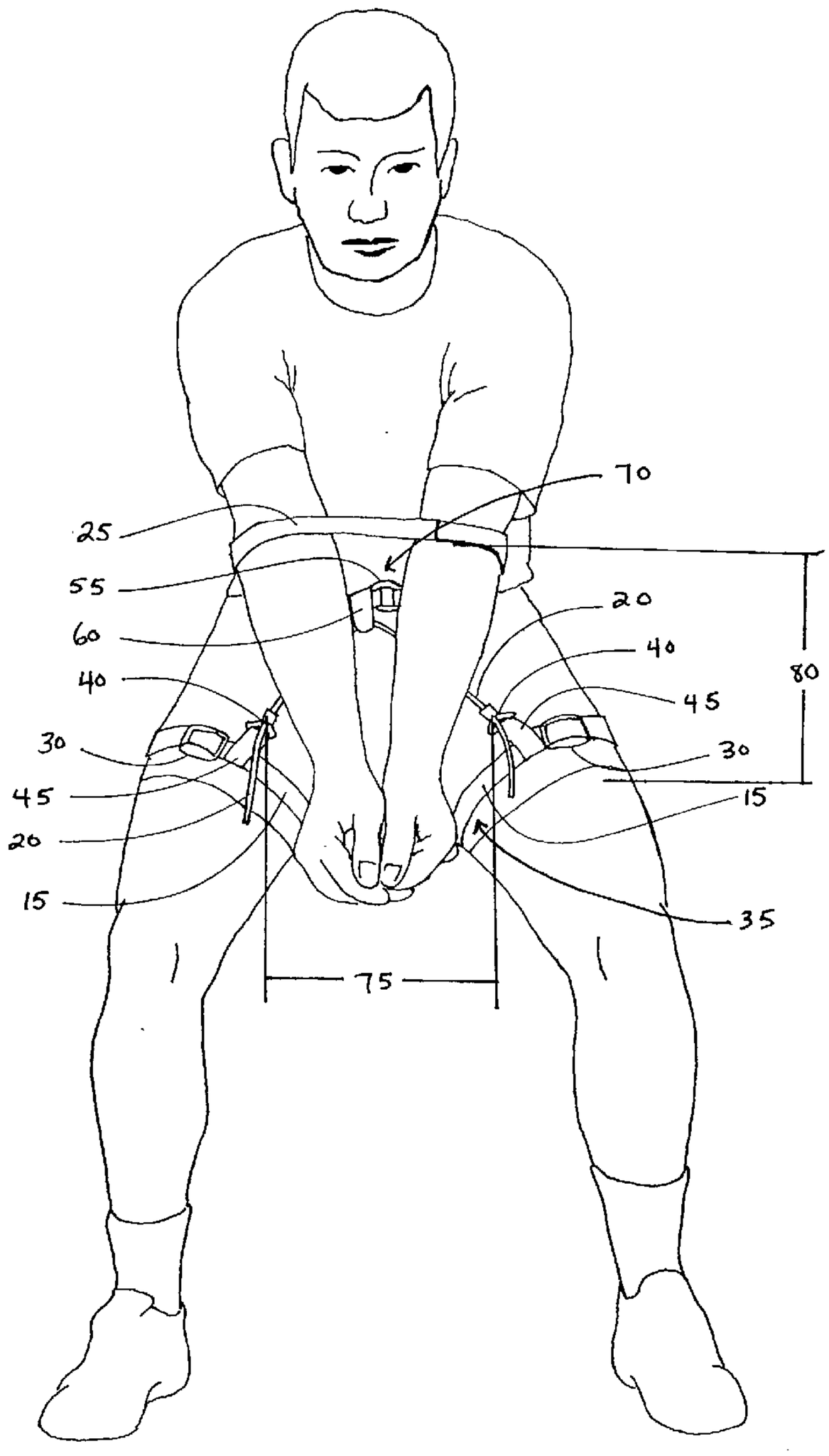
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(57) **ABSTRACT**

The volleyball passing harness comprises a plurality of thigh straps sized and shaped to fit snugly about the thigh. The thigh straps are adjustable to fit users of various size. An elastic cord connects the plurality of thigh straps together at a predetermined distance apart. The elastic cord provides gradual resistance to the movement of the user away from proper volleyball passing form. An adjustable arm strap sized and shaped to retain the elbows of the user within a second predetermined distance apart is slidably connected to the elastic cord. The arm strap is adjustable to accommodate users of various size. The slidable connection to the elastic cord maintains a proper distance relationship between the thighs and elbows of the user to promote proper volleyball passing form.



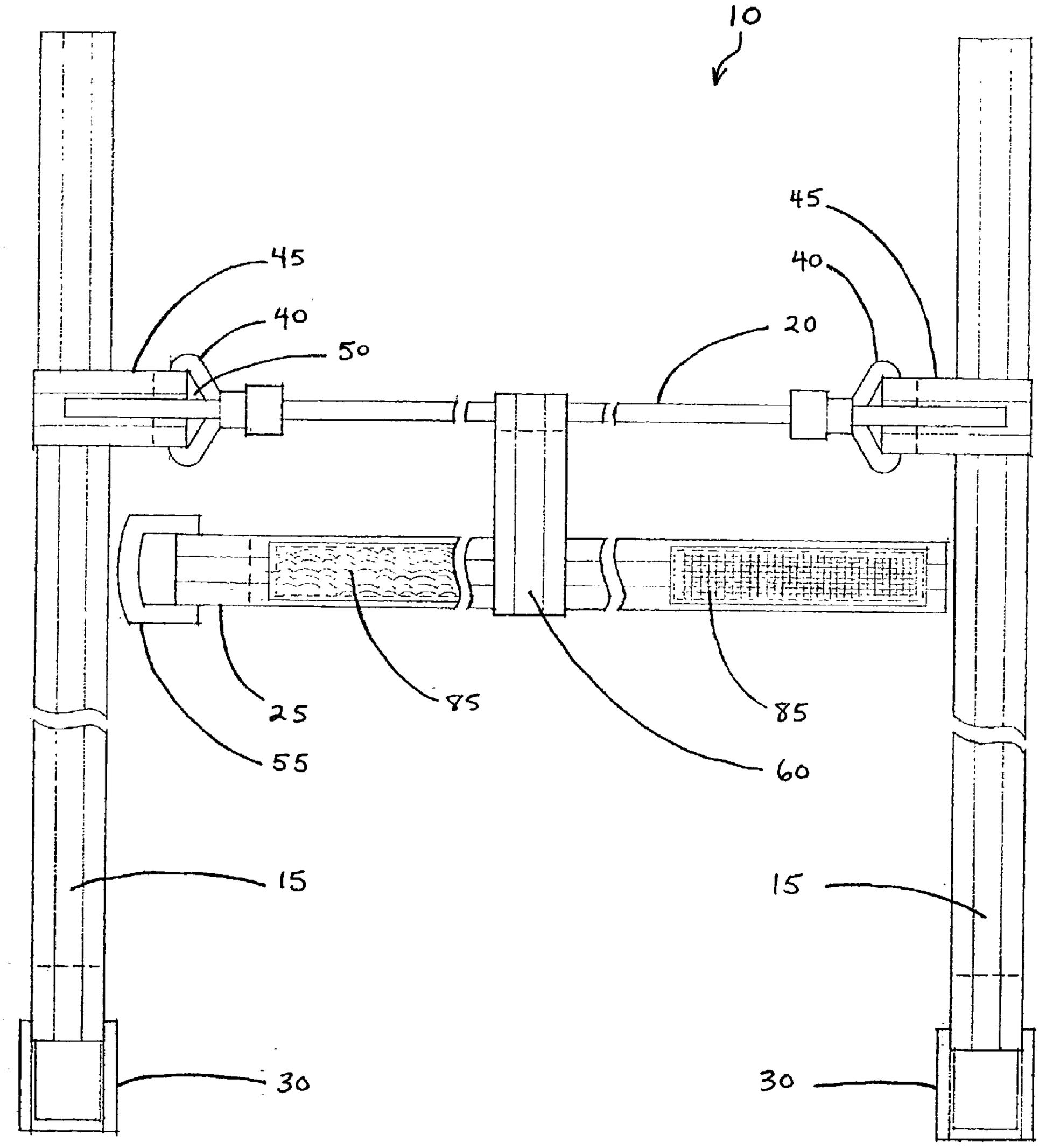



Fig. 1

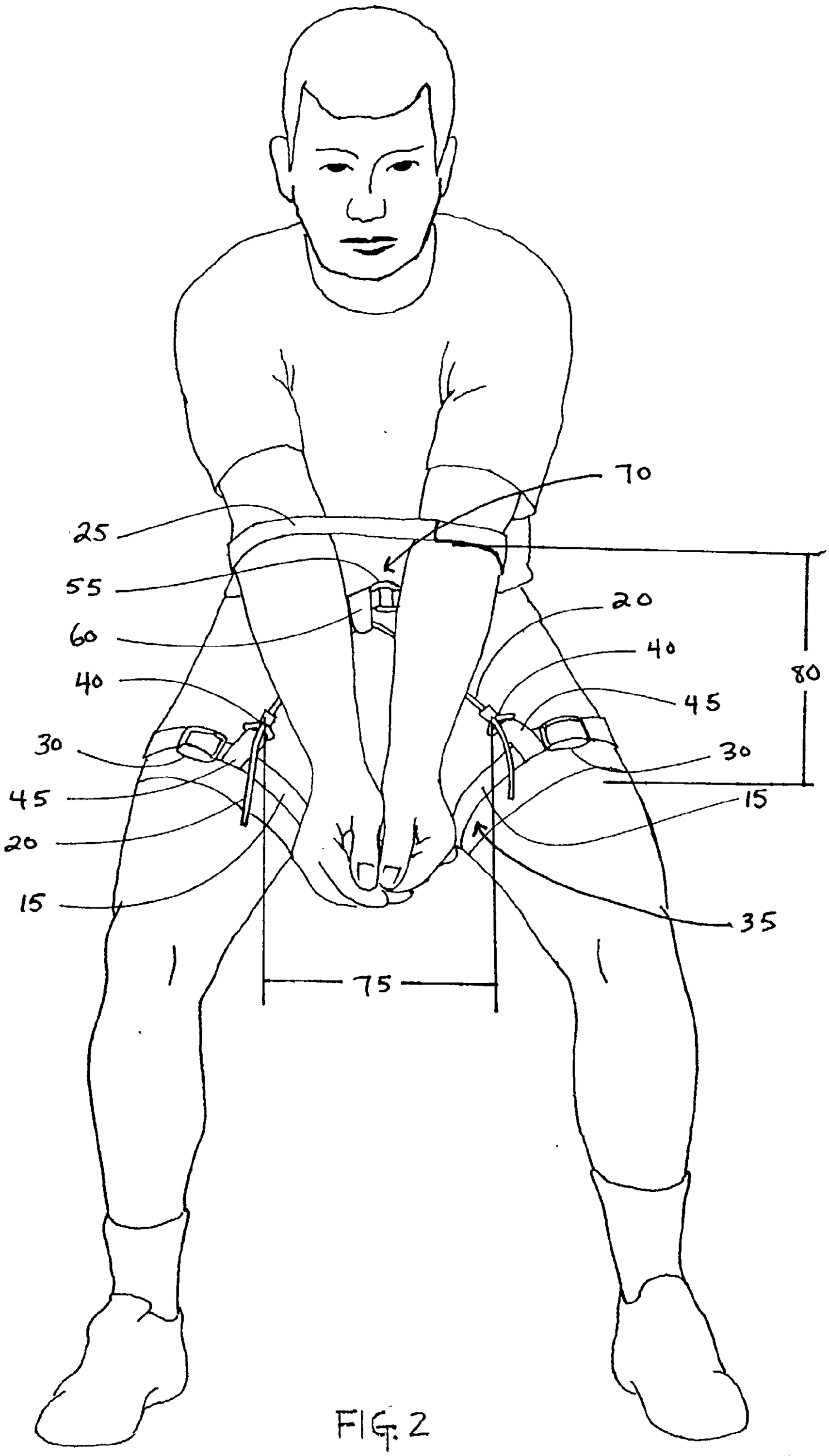



FIG. 2

# VOLLEYBALL TRAINING DEVICE

## BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The claimed invention relates generally to sports training devices and more specifically to training devices for volleyball players.

[0003] 2. Description of the Prior Art

[0004] One of the most difficult techniques to master in the sport of volleyball is the bump pass. To bump pass accurately it is critical that the execution of a bump pass is performed with correct form. Often, the form of beginning volleyball players can be inconsistent due to inexperience and the fast pace of the game. Common errors in the bump pass can be contributed, but not limited to, poor positioning of the volleyball player's hands, thumbs, elbows, arms, and upper body.

[0005] The correct form to bump pass a volleyball consists of the hands clasped together with thumbs pointing towards the ground, elbows locked and close together, arms extended straight between the hips and knees, and the body position of the athlete is low to the ground. Experts commonly relate poor beginning volleyball player passing performance to inconsistencies in maintaining the proper volleyball passing form.

[0006] In teaching proper volleyball passing form, it is common to stress the proper positioning of the volleyball player's legs with respect to one another while simultaneously properly positioning the volleyball player's arms with respect to one another while maintaining a proper relationship between the volleyball player's legs and arms so as to achieve the proper overall volleyball passing stance.

[0007] In order to teach volleyball players proper volleyball passing form, different types of training devices have been created. U.S. Pat. No. 4,795,163 issued to Szabo discloses an instructional device used to teach the skill of the forearm bump pass for the sport of volleyball. The passer is used by placing the fixed sleeves on the users biceps, and reaching the hands forward to grasp the moveable ball with thumbs together on top of the ball and rolling them over to a position where they contact the rod at its front with the tips of the thumbs. Fingers on both hands are clasped under the rod and pull up against the rod. This causes the arms to assume the proper passing position, and will not allow the elbows to bend which is the most difficult bad habit to break in volleyball. All normal volleyball bump passing drills are completed with the passer in place and the student is taught proper form and body position.

[0008] U.S. Pat. No. 5,165,696 issued to Saha discloses a volleyball training device having a waistband, wristband and an adjustable connecting strap between the wrist and waist. The volleyball player can adjust the connecting strap so that either one or both arms are restricted in movement to the angle required for specific volleyball shots.

[0009] U.S. Pat. No. 5,460,385 issued to Lazzeroni discloses a flexible and adjustable training aid for use by all levels and sizes of athletes to teach and practice the proper body position while passing or moving to pass a volleyball. A harness on the athlete's torso and a leg member on the athlete's leg below the knee are connected by a low position member. Detachment of the low position member indicates failure to maintain proper low position. Other attachments indicate whether shoulders are far enough forward or legs are far enough apart.

[0010] These volleyball training devices do not disclose a volleyball training device that teaches a user proper positioning of the legs with respect to each other, proper positioning of the arms with respect to each other, as well as proper positioning of the arms with respect to the legs so as to attain an overall effective volleyball bump passing form. Therefore, there is a need for a volleyball training device that teaches proper overall form by teaching proper positioning of a volleyball player's legs and arms as well as proper interrelation between the player's legs and arms.

[0011] Similar training devices have been created for other sports such as tennis. U.S. Pat. No. 4,955,608 issued to Dougherty discloses an athletic movement trainer comprising a belt, ankle straps, and an elasticized, bungee-type cord for training a user to maintain a proper tennis playing stance. The trainer "reminds" the sportsman to resume the proper position without preventing him or her from deviating from the position when required. However, the trainer disclosed by the patent issued to Dougherty does not disclose a training device that interrelates the movement of the users arms with the movement of the users legs. Therefore, there is a need for a training device that interrelates the movement of an athlete's legs with the movement of the athlete's arms of which athletic training devices created for other sports have not previously provided.

## SUMMARY OF THE INVENTION

[0012] Therefore, there is a need for a volleyball training device that stress the proper positioning of the volleyball player's legs with respect to one another while simultaneously properly positioning the volleyball player's arms with respect to one another while maintaining a proper relationship between the volleyball player's legs and arms so as to achieve the proper overall volleyball passing stance. The claimed invention provides a volleyball passing harness that answers this need.

[0013] When the volleyball passing harness is properly adjusted and used, the harness facilitates teaching volleyball players a proper volleyball passing stance by restraining the movement of the player's elbows within a predetermined distance and progressively resisting the movement of the player's elbows beyond a predetermined distance from the player's thighs.

[0014] The harness is preferably used by placing the thigh straps around the middle of the thigh and adjusting the thigh straps to fit snugly about the thigh so that the thigh straps remain firmly in place during use of the harness. The arm strap is then placed about both forearms, preferably just below the elbows and is adjusted to retain the elbows within a predetermined desired distance apart. The cinching eyelets that connect the thigh straps to the cord are then positioned along the cord at a predetermined distance apart.

[0015] The distance between the cinching eyelets governs the distance between the thighs and elbows of the person using the harness. As the distance between the cinching eyelets is decreased, the distance between the thighs and the elbows is shortened due to the arm strap being slidably connected to the cord by way of the connecting strap.

[0016] The volleyball passing harness comprises a plurality of thigh straps sized and shaped to fit snugly about the thigh. The thigh straps are adjustable to fit users of various size. An elastic cord connects the plurality of thigh straps together at a predetermined distance apart. The elastic cord provides gradual resistance to the movement of the user away from proper volleyball passing form. An adjustable arm strap sized and shaped to retain the elbows of the user within a second predetermined distance apart is slidably connected to the elastic cord. The arm strap is adjustable to accommodate users of various size. The slidable connection to the elastic cord maintains a proper distance relationship between the thighs and elbows of the user to promote proper volleyball passing form.

## BRIEF DESCRIPTION OF THE DRAWINGS

[0017] **FIG. 1**. **FIG. 1** shows

[0018] **FIG. 2**. **FIG. 2** shows

[0019] **FIG. 3**. **FIG. 3** shows

[0020] **FIG. 4**. **FIG. 4** shows

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0021] Turning now to the drawings, **FIGS. 1 and 2** show the volleyball passing harness **10**. The harness **10** is generally made up of thigh straps **15**, an elastic cord **20** adjustably connecting the thigh straps **15** together, and an arm strap **25** slidably connected to the elastic cord **20**.

[0022] In the preferred embodiment of the invention, the thigh straps **15** are made of nylon webbing material as shown in **FIG. 1**. However, it is contemplated as being within the scope of the claimed invention that the thigh straps **15** could be constructed of other similarly flexible materials such as rubber, cloth, or plastic. The thigh straps **15** are approximately 30 inches in length and 1 inch in width, but may be of greater or smaller dimensions to accommodate persons of differing size. The thigh straps **15** have a cinching latch **30** that allows the size of the thigh strap loop **35** to be adjusted according to the size of the person using the harness **10**. It is contemplated however, that other means of adjusting the size of the thigh strap loop **35** may be used within the scope of the claimed invention, such as a series of snaps or a VELCRO closure.

[0023] In the preferred embodiment of the invention, the elastic cord **20** is made up of a synthetic rubber core with a nylon webbing casing as shown in **FIG. 1**. However, it is contemplated as being within the scope of the claimed invention that the cord **20** could be constructed of other elastic materials such as rubber, as well as non-elastic materials such as nylon, cloth, rope, or plastic. The cord **20** shown in **FIG. 1** is approximately 36 inches in length and about ¼ inch in diameter, but may be of greater or smaller dimensions to accommodate persons of differing size. It is also contemplated as being within the scope of the claimed invention that the cord **20** could be of some other configuration such as a flat strap.

[0024] In the preferred embodiment of the invention, the cord **20** is adjustably connected to the thigh straps **15** by way of a cinching eyelet **40** as shown in **FIG. 1**. However, it is contemplated as being within the scope of the claimed invention that the cord **20** could be connected fixedly or adjustably by other means. A connecting loop **45** of fixed size connects the cinching eyelet **40** to the thigh strap **15** by extending through the eyelet portion **50** of the cinching eyelet **40** and encircling the thigh strap **15**. The connecting loop **45** may be made of nylon webbing or other materials such as those mentioned in the thigh strap description. The connecting loop **45** is preferably sewn in place to the thigh strap **15**, but may be only looped loosely about the thigh strap **15** such that the thigh strap **15** is free to slide through the connecting loop **45**.

[0025] In the preferred embodiment of the invention, the arm strap **25** is adjustable and made of nylon webbing material as shown in **FIG. 1**. However, it is contemplated as being within the scope of the claimed invention that the arm strap **25** may be of fixed size and could be constructed of other materials such as rubber, cloth, or plastic. The arm strap **25** shown in **FIG. 1** is adjustable having a length of approximately 34 inches and 1 inch in width, but may be of greater or smaller dimensions to accommodate persons of differing size. The size of the loop created by the arm strap **25** can be adjusted by an adjustable fastener such as a VELCRO closure shown in **FIG. 1** or some other adjustable fastener such as a cinching latch **30** used in the thigh strap adjustment or a series of snaps.

[0026] The arm strap **25** shown in **FIG. 1** has a D ring **55** sewn within a loop at one end of the arm strap **25** created by turning back one end of the arm strap **25** upon itself and sewing it in place to secure the D ring **55**. Feeding the arm strap **25** through the D ring **55** and securing the free end of the arm strap **25** by way of the VELCRO closure **85** forms the loop of the arm strap **25** when a D ring **55** is used in making the arm strap **25**. Alternately, the arm strap **25** may be made of the nylon webbing with a VELCRO closure **85** alone.

[0027] In the preferred embodiment of the claimed invention, the arm strap **25** is slidably connected to the cord **20** by way of a connecting strap **60** and is made of nylon webbing material as shown in **FIG. 1**. However, it is contemplated as being within the scope of the claimed invention that the connecting strap **60** could be constructed of other similarly flexible materials such as rubber, cloth, or plastic. The connecting strap **60** is approximately 4 inches in length and 1 inch in width, but may be of greater or smaller dimensions to accommodate persons of differing size. The ends of the connecting strap **60** are sewn into loops creating a connecting strap **60** having a loop for the cord **20** to pass through and a loop for the arm strap **25** to pass through. The cord loop **65** is made approximately twice the size of the diameter of the cord **20** so that the cord **20** may slide through the cord loop **65** freely. The arm strap loop **70** is made to be slightly larger than the width of the arm strap **25** so that the arm strap **25** may slide through the arm strap loop **70**.

[0028] The harness **10** is preferably used as shown in **FIG. 2**. The thigh straps **15** are placed preferably around the middle of the thigh and adjusted to fit snugly about the thigh so that the thigh strap **15** remains firmly in place during use of the harness **10**. The arm strap **25** is placed about both forearms, preferably just below the elbows and is adjusted to retain the elbows within a predetermined desired distance apart. The cinching eyelets **40** that connect the thigh straps **15** to the cord **20** are then positioned along the cord **20** at a predetermined distance apart.

[0029] The distance **75** between the cinching eyelets **40** governs the distance **80** between the thighs and elbows of the person using the harness **10**. As the distance **75** between the cinching eyelets **40** is decreased, the distance **80** between the thighs and the elbows is shortened due to the arm strap **25** being slidably connected to the cord **20** by way of the connecting strap **60**. The maximum distance between the arm strap **25** and the thigh straps **15** without stretching the cord **20** is approximately half the distance between the cinching eyelets **40**.

[0030] When the harness **10** is properly adjusted and used, the harness **10** facilitates teaching volleyball players a proper volleyball passing stance by restraining the movement of the player's elbows within a predetermined distance and progressively resisting the movement of the player's elbows beyond a predetermined distance from the player's thighs.

[0031] To execute the bump pass correctly, a volleyball player must assume the correct passing positions, as mentioned above, prior to the actual pass. As the thumbs point towards the ground a flat passing platform is created. The platform is an area where the ball contacts the forearms. Elbows are locked and close to one another to control the trajectory of the pass. The locked elbows also create a larger and flatter passing platform. As the ball approaches, the athlete must be in a position so the ball's trajectory will pass between the hips and knees. As the ball contacts the forearms, there should be a minimal amount of swing produced by the arms. This invention is designed to teach volleyball players to bump pass with correct form.

[0032] Although the invention has been described by reference to some embodiments it is not intended that the novel device be limited thereby, but that modifications thereof are intended to be included as falling within the broad scope and spirit of the foregoing disclosure, the following claims and the appended drawings.

I claim:

**1**. A volleyball passing harness, the harness comprising:

a plurality of thigh straps sized and shaped to fit snugly about the thigh, the thigh straps being adjustable to fit users of various size;

an elastic cord connecting the plurality of thigh straps together at a predetermined distance apart; and

an adjustable arm strap sized and shaped to retain the elbows of the user within a second predetermined distance apart slidably connected to the elastic cord, the arm strap being adjustable to accommodate users of various size, the slidable connection maintaining a proper distance relationship between the thighs and elbows of the user, the elastic cord providing gradual resistance to the movement of the user away from proper volleyball passing form.

**2**. The harness of claim 1 wherein the distance between the thigh straps are adjustable to accommodate users of different size.

**3**. The harness of claim 2 wherein the elastic cord is movably connected to the thigh straps.

**4**. The harness of claim 3 wherein the thigh straps and arm strap are made of nylon webbing material.

**5**. A volleyball training device, the training device comprising:

at least one thigh strap sized and shaped to fit snugly about the thigh of a user;

at least one arm strap sized and shaped to retain the elbows of the user within a predetermined distance apart, the predetermined distance facilitating the user to achieve a proper volleyball playing form; and

at least one cord connecting the thigh strap to the arm strap, the cord retaining the elbows of the user within a second predetermined distance from the thigh of the user to facilitate achieving a proper volleyball playing stance.

**6**. The device of claim 5 wherein the cord connects two thigh straps and the arm strap is slidably connected to the cord between the two thigh straps.

**7**. The device of claim 6 wherein the predetermined distance is adjustable to accommodate users of different size.

**8**. The device of claim 7 wherein the thigh strap and the arm strap are adjustable to accommodate users of different size.

**9**. The device of claim 8 wherein the cord has an elastic property providing gradual resistance to movement of the user away from proper volleyball playing form.

**10**. The device of claim 9 wherein the cord is movably connected to the thigh strap.

**11**. The device of claim 10 wherein the thigh strap and the arm strap are made of nylon webbing material.

**12**. A method of teaching proper volleyball passing form, the method comprising:

retaining the elbows of a volleyball player within a predetermined distance from each other, the retention of the elbows facilitating achievement of proper volleyball passing form; and

retaining the elbows of the volleyball player within a second predetermined distance from the thighs of the volleyball player, the retention of the predetermined distance facilitating achievement of proper volleyball passing form.

**13**. The method of claim 12 wherein the predetermined distance is from about 1 inch to about 4 inches.

**14**. The method of claim 12 wherein the second predetermined distance is from about 3 inches to about 10 inches.

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