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(54) **LACROSSE PRACTICE TETHERED ASSEMBLY**

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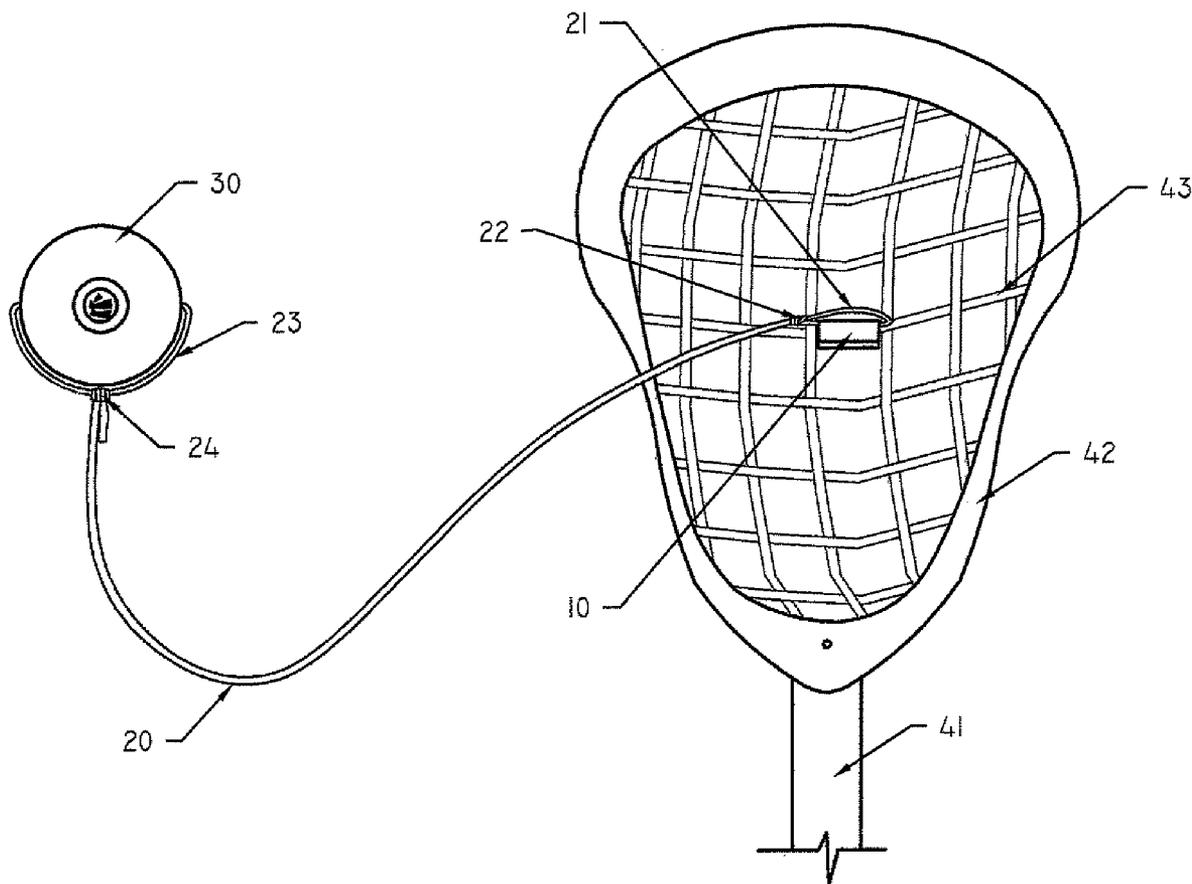
(57) **ABSTRACT**

(22) Filed: **Sep. 25, 2008**

Related U.S. Application Data

(60) Provisional application No. 60/994,967, filed on Sep. 25, 2007.

A lacrosse practice tethered assembly includes a fastener loop, an elastic cord, and a lacrosse ball. The elastic cord is secured to the fastener loop on one end of the cord and the lacrosse ball on the second end of the cord. The elastic cord includes braided elastic strands within a yarn sheath.



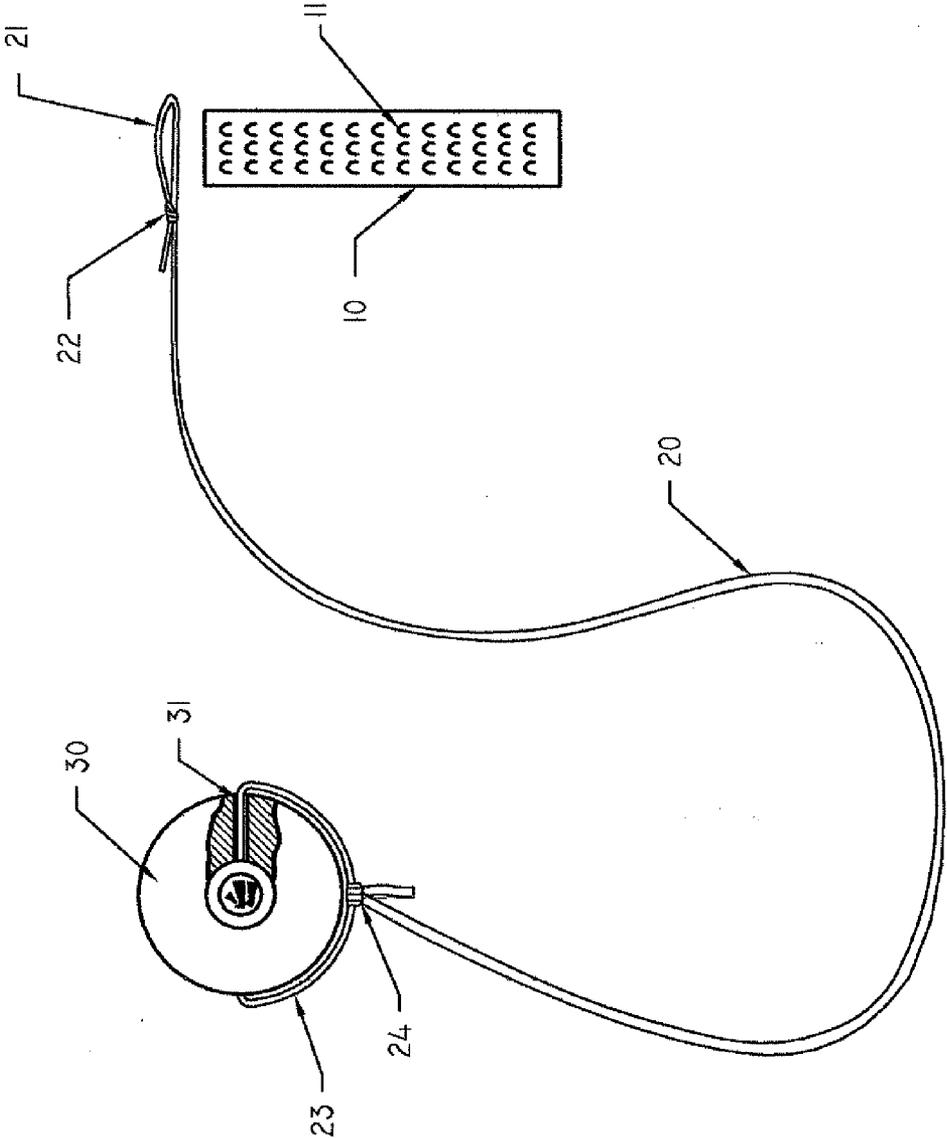


FIG. 1

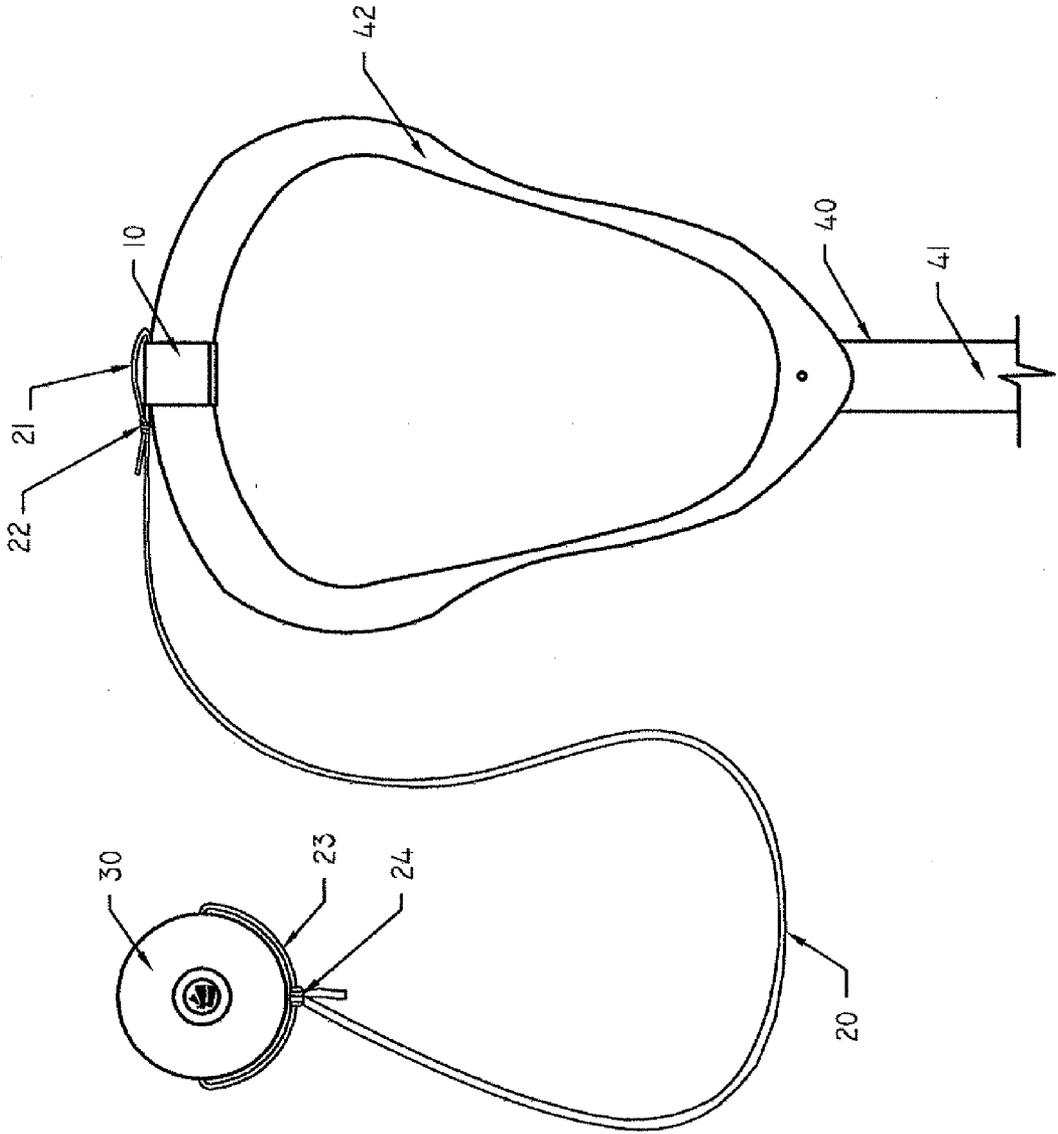


FIG. 2

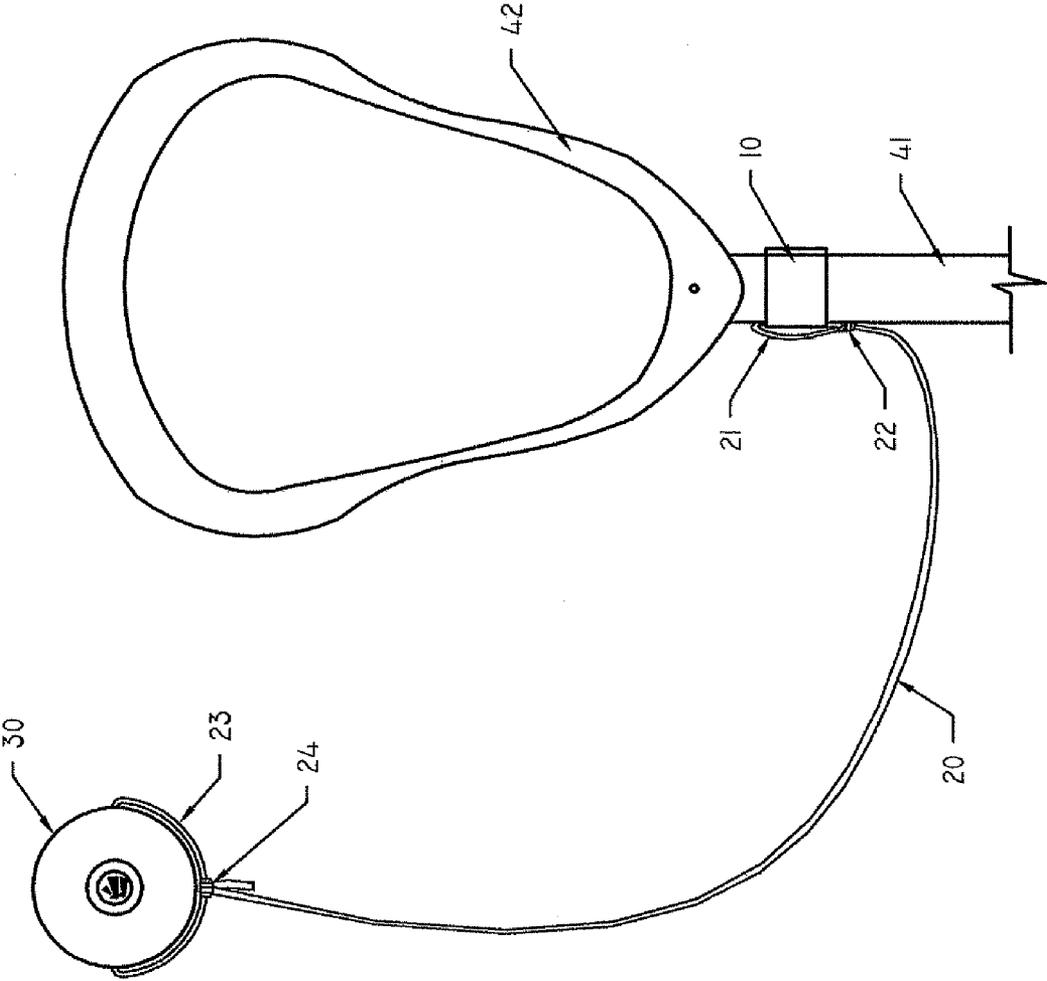


FIG. 3

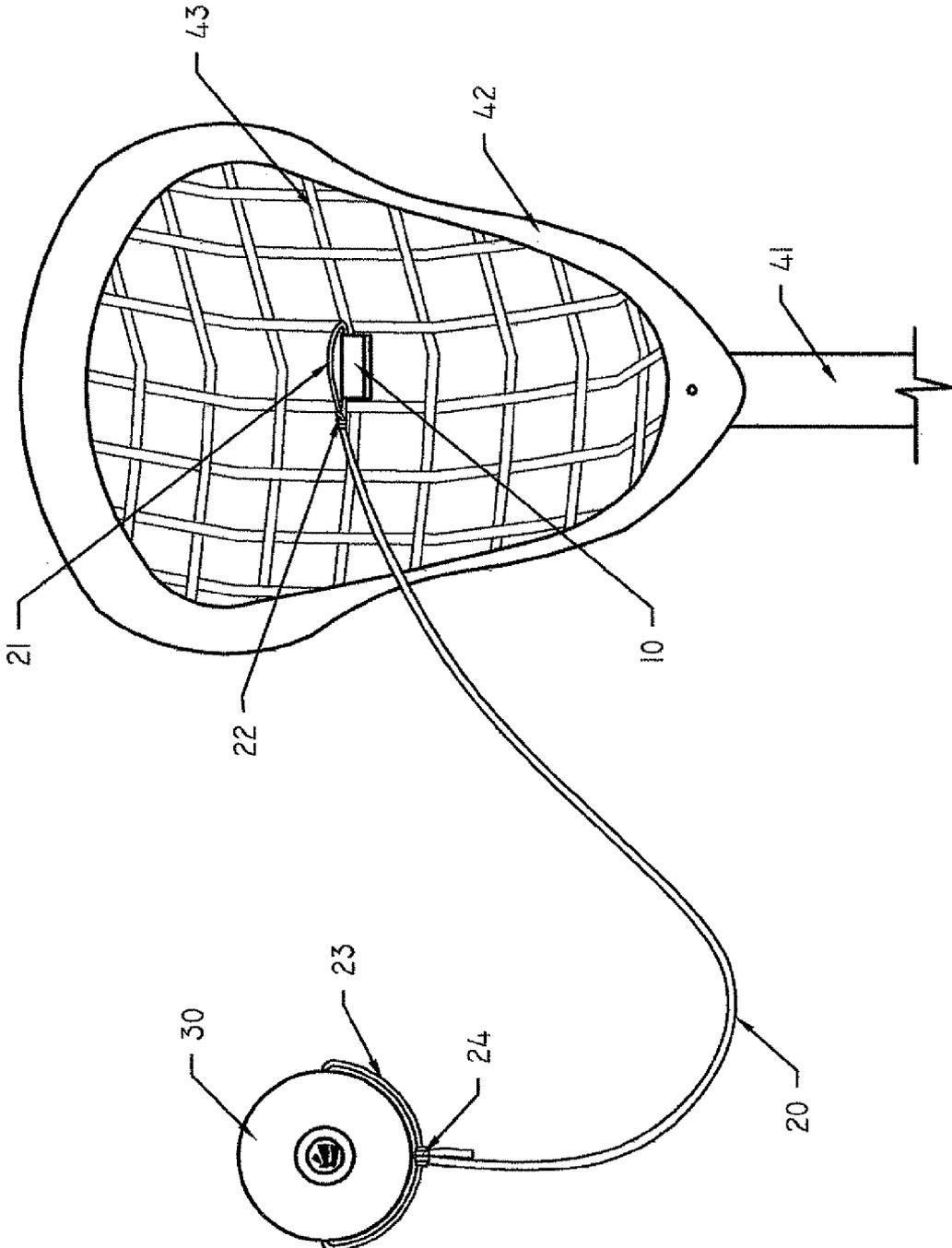


FIG. 4

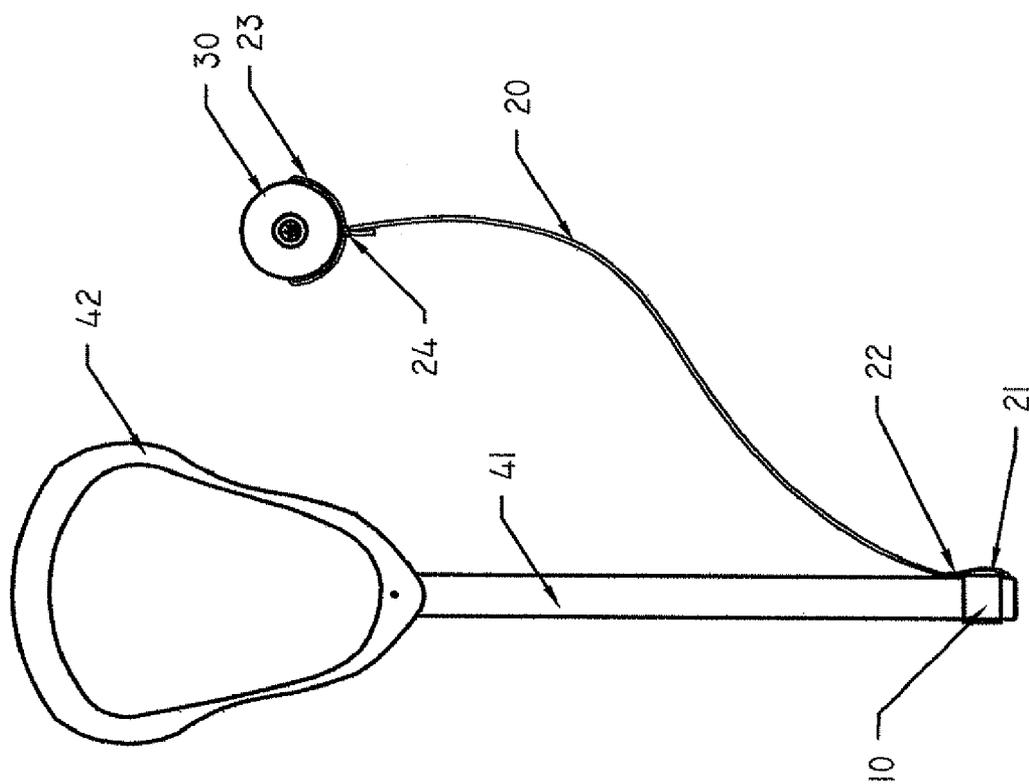


FIG. 5

LACROSSE PRACTICE TETHERED ASSEMBLY

FIELD OF THE INVENTION

[0001] This application claims the benefit of U.S. Provisional Patent Application No. 60/994,967, filed Sep. 25, 2007 and entitled "Lacrosse Practice Tethered Assembly". The field of invention is the sport of lacrosse, and specifically a device for use when practicing lacrosse stick skills.

BACKGROUND

[0002] Lacrosse is a sport of growing popularity. The number of participants and teams has increased rapidly over recent years. At present, players typically practice the sport by throwing a lacrosse ball back and forth with each other. An individual player may also throw a ball against a wall to himself/herself or against a spring net. The person may practice shots on goal by simply throwing a ball into an empty lacrosse net.

BRIEF SUMMARY

[0003] Accordingly, it is an object of the present invention to allow an individual user to practice their lacrosse sticks skills such as scooping the lacrosse ball, passing the lacrosse ball, catching the lacrosse ball, negotiating bouncing lacrosse balls, goal tending and shooting lacrosse balls on goal. In one embodiment, a lacrosse practice tethered assembly comprises a fastener loop, an elastic cord, and a lacrosse ball. The fastener loop comprises a strap that comprises a fastener on opposite ends of the strap that may be releasably secured to each other to form a loop. The elastic cord is secured to the fastener loop on one end of the cord and the lacrosse ball on the second end of the cord, wherein the elastic cord comprises braided elastic strands within a yarn sheath. The fastener loop may comprise hook and loop fasteners on opposite ends of the strap. The lacrosse ball may comprise a hole bored there-through and the elastic cord secured to the ball by inserting the cord through the hole in the ball. The length of the elastic cord may be at least about eight feet, or alternatively between about seven to ten feet, or still further alternatively, between about six to twelve feet in length. The elastic cord may have a diameter in the range of 1/16 and 3/32 of an inch. The yarn sheath may be comprised of a composition selected from the group consisting of polyester, nylon and polypropylene. In one embodiment, the elastic cord is 104 inches long and 3/32 of an inch in diameter and has a polyester yarn sheath.

[0004] In another embodiment, the lacrosse practice tethered assembly described herein may be attached to a lacrosse stick wherein the fastener loop is removably secured to the shaft of a lacrosse stick. The fastener loop may alternatively be removably secured to the head of the lacrosse stick. Still further alternatively, the fastener loop may be removably secured to the mesh portion of the head of the lacrosse stick or proximate to the top of the head of the lacrosse stick.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

[0005] FIG. 1 is a perspective view of a lacrosse practice tethered assembly in accordance with the present invention.

[0006] FIG. 2 is a perspective view of a lacrosse practice tethered assembly further attached to the top of a head component of a lacrosse stick.

[0007] FIG. 3 is a perspective view of a lacrosse practice tethered assembly attached to the top of a lacrosse stick shaft adjacent to the head of the lacrosse stick.

[0008] FIG. 4 is a perspective view of a lacrosse practice tethered assembly attached to the mesh portion of a lacrosse stick head.

[0009] FIG. 5 is a perspective view of a lacrosse practice tethered assembly attached to the bottom of a lacrosse stick shaft.

DETAILED DESCRIPTION OF THE INVENTION

[0010] The present invention is directed to a lacrosse practice tethered assembly that includes a fastener loop, an elastic cord, and a lacrosse ball. The elastic cord is connected to the fastener loop and to the lacrosse ball. The fastener loop is further adapted to be secured to a lacrosse stick. A player may then use the lacrosse practice tethered assembly to practice lacrosse stick skills such as scooping the lacrosse ball, passing the lacrosse ball, catching the lacrosse ball, negotiating bouncing lacrosse balls, shooting lacrosse balls on goal, goal tending and other lacrosse stick skills to be discovered. The lacrosse practice tethered assembly can be attached to and detached from any part of the lacrosse head or stick.

[0011] Reference will now be made to an example of the present invention as shown in FIGS. 1-5.

[0012] The fastener loop 10 is a strap that has fasteners on opposite ends thereof that allow the strap to be releasably secured to itself to form a loop. In one example, the fastener may be a hook and loop style fastener. As shown in FIG. 1, one side 11 of the strap 10 is made up of female loops. The other side (not shown) includes hooks that releasably engage the female loops shown when the strap 10 is overlapped upon itself. Alternatively, the fastener may be a snap or button or other means for releasably securing the strap to itself to form a loop. The fastener must likewise be strong enough to withstand the pressure and repetition of a lacrosse ball being thrown and pulled back from the fastener loop. In one example, the fastener loop 10 is a strap approximately four inches long by 3/4 of an inch wide.

[0013] The elastic cord 20 is tied on one end to the fastener loop 10 and on its opposite end to the lacrosse ball 30. On the fastener loop end, the elastic cord 20 is tied in a knot 22 to form a loop 21 that will receive the fastener loop 10. On the opposite end of the elastic cord 20 there is a second loop 23 formed by knot 24. The portion of the cord 20 that forms the loops 23 extends through a hole 31 that is bored through the center of the lacrosse ball 30.

[0014] The length of the elastic cord 20 enables the player to use the assembly to practice. Different lengths of the cord may be used to maximize different practice purposes. For instance, a longer cord 20 may be used for shooting practice. A shorter cord may be used to practice ground balls or other skills. It is believed that a useful length of the elastic cord 20 is between about seven to ten feet, or alternatively, about six to twelve feet. If the elastic cord 20 is too long, then it may become tangled and knotted upon itself. If the elastic cord 20 is too short, then it may not allow for useful distance of throwing and practicing.

[0015] The physics of the invention involves a lacrosse ball weighing approximately 5.3 ounces being attached to an elastic cord. The elastic cord has to have certain characteristics or specifications allowing the lacrosse ball to be thrown out of the lacrosse head with force; the weight of the lacrosse ball pulling or stretching the elastic cord out to its farthest point

and then the elastic cord returning the attached lacrosse ball with even a greater force back toward the lacrosse head. The weight of approximately 5.3 ounces requires an elastic cord that has a combination of substantial elongation or stretchiness and a strong modulus (point of breaking). If the elastic cord is stretchy but does not have strong modulus, the lacrosse ball will take the elastic cord out with the throw but will break when the weight of the lacrosse ball (thrown with force from the lacrosse head) reaches the farthest stretchy point of the elastic cord. If the elastic cord has a stronger than needed modulus, then the elastic cord would not have the stretchiness to bring the lacrosse ball back with the force needed to make the assembly work well.

[0016] Elastic cord is manufactured by combining strands of natural or synthetic rubber with a sheathing of yarn. In the

is of the “bungee” style with ten (10) twisted or braided fibers inside a polyester yarn sheath. The elastic fibers are braided sixty-four (64) ±5% times every inch (picks); it weighs 1.072 pounds for every one hundred (100) yards and has an elongation or stretchiness factor of one hundred twenty (120%). All of following cords were tested, but the CO23 braided elastic (3/32”) cord lasted the longest before failure while maintaining elongation or stretchiness, and because of the smooth texture of the polyester sheath, tangled much less than the cords encased in the other materials of nylon or polypropylene. This cord is sometimes called textured polyester elastic cord because of this unique texture it possesses. The following Table 1 shows modulus and elasticity of some cords used in the experimentation.

TABLE 1

Cord Name (each is a braided elastic)	Width (+/-1/64 inch)	Type Yarn Sheath	Elongation Stretch (+1/-15%)	Modulus
CO23	1/16"	Polyester	120%	Failed at 12 lbs.
CO23	3/32"	Polyester	120%	Failed at 22 lbs.
CO23	1/8"	Polyester	120%	Failed at 25 lbs.
CO23	3/32"	Polyester	120%	Failed at 34 lbs.
CO21	1/16"	Polypropylene	100%	Failed at 12.3 lbs.
CO21	3/32"	Polypropylene	100%	Failed at 21 lbs.
CO21	1/8"	Polypropylene	100%	Failed at 26.7 lbs.
CO21	3/32"	Polypropylene	100%	Failed at 39.3 lbs.
CO24	1/16"	Nylon	100%	Failed at 18.7 lbs.
CO24	3/32"	Nylon	100%	Failed at 39.5 lbs.
CO24	1/8"	Nylon	100%	Failed at 85.5 lbs.
CO24	3/32"	Nylon	100%	Failed at 103.9 lbs.

case of elastic shock cords, a number of braided rubber strands are encased in a cover of one or more layers of yarn. Cords are made with a core of elastic rubber strands with an outside layer(s) of braided yarn. Cords can vary tremendously in size and characteristics. Diameters range from under 1/16" to over 1". The size is not the sole determining factor in the modulus (force required to stretch). The modulus of any size cord can be increased by packing the rubber tighter. Generally, the harder the cord, the greater the modulus. The present assembly worked well with a cord that was relatively softer or more flexible than harder cords with a higher modulus. Varying the ratio of yarn to rubber also controls modulus. The yarn sheath used in the cords was made of nylon, polypropylene and polyester. Polyester yarn proved to add flexibility without taking away stretchiness of the cord. The polyester sheath was also less prone to significant tangling during use as compared with the nylon and polypropylene.

[0017] The length of the elastic cord is also important. If the elastic cord is short; the lacrosse ball will not leave the lacrosse head on an attempted throw or cradle. If the elastic cord is too long, the weight of the lacrosse ball and the force of the throw will not create the force needed to return the lacrosse ball back toward the lacrosse head.

EXAMPLE

[0018] The physics of the assembly led to much experimenting with several types, sizes and lengths of elastic cords. A round CO23 braided elastic cord with a width of 3/32" and length of one hundred and four (104) inches was finally used to manufacture a commercial embodiment. This elastic cord

[0019] A single rubber strand was also tested for use as the elastic cord. A round silicone rubber o-ring stock of varying sizes and modulus was used as shown in Table 2, but none of the cord was strong enough in practice.

TABLE 2

Cord Name	Width	Stretch	Modulus
Silicone O-ring Stock Cord	.07"	100%	Failed at 51 ounces
Silicone O-ring Stock Cord	.103"	100%	Failed at 115 ounces
Silicone O-ring Stock Cord	.139"	100%	Failed at 148 ounces

[0020] In view of the foregoing testing, it is believed that an elastic cord should have a modulus of at least about 12 pounds but less than about 40 pounds, or alternatively between 20 and 30 pounds.

[0021] The lacrosse practice tethered assembly may be attached at multiple locations on a lacrosse stick 40. In FIG. 2, the fastener loop 10 is attached proximate the top of the head 42 of the lacrosse stick 40. In FIG. 3, the fastener loop 10 is releasably connected proximate the top of the shaft 41 of the lacrosse stick 40. In FIG. 4, the fastener loop 10 is releasably secured around the mesh 43 that makes up a part of the head 42 of the lacrosse stick 40. FIG. 5 shows the fastener loop 10 secured around the base of the shaft 41 of the lacrosse stick 40. The lacrosse practice tethered assembly may be releasably attached at these multiple locations for different practice purposes. They may be also used to develop new skills.

[0022] Many modifications and other embodiments of the invention will come to mind to one skilled in the art to which

this invention pertains having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the invention is not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.

What is claimed:

- 1. A lacrosse practice tethered assembly comprising: a fastener loop, an elastic cord, and a lacrosse ball; the fastener loop comprising a strap that comprises a fastener on opposite ends of the strap that may be releasably secured to each other to form a loop; the elastic cord secured to the fastener loop on one end of the cord and the lacrosse ball on the second end of the cord; wherein the elastic cord comprises braided elastic strands within a yarn sheath.
- 2. A lacrosse practice tethered assembly as described in claim 1, wherein the fastener loop comprises hook and loop fasteners on opposite ends of the strap.
- 3. A lacrosse practice tethered assembly as described in claims 1, wherein the lacrosse ball comprises a hole bored therethrough and the elastic cord is secured to the ball by inserting the cord through the hole in the ball.
- 4. A lacrosse practice tethered assembly as described in claim 1, wherein the length of the elastic cord is at least about eight feet.
- 5. A lacrosse practice tethered assembly as described in claim 1, wherein the length of the elastic cord is between about seven to ten feet.
- 6. A lacrosse practice tethered assembly as described in claim 1, wherein the length of the elastic cord is between about six to twelve feet.
- 7. A lacrosse practice tethered assembly as described in claim 1, wherein the elastic cord has a diameter in the range of $\frac{1}{16}$ to $\frac{3}{32}$ of an inch.
- 8. A lacrosse practice tethered assembly as described in claim 1, wherein the elastic cord has a yarn sheath comprised of a composition selected from the group consisting of polyester, nylon and polypropylene.

- 9. A lacrosse practice tethered assembly as described in claim 1, wherein the elastic cord is 104 inches long and $\frac{3}{32}$ " in diameter and has a polyester yarn sheath.
- 10. A lacrosse practice tethered assembly comprising: a fastener loop, an elastic cord, and a lacrosse ball; the fastener loop comprising a strap that comprises a fastener on opposite ends of the strap that may be releasably secured to each other to form a loop; the elastic cord secured to the fastener loop on one end of the cord and the lacrosse ball on the second end of the cord; wherein the elastic cord comprises braided elastic strands within a yarn sheath; and a lacrosse stick, wherein the fastener loop is removably secured to the lacrosse stick.
- 11. A lacrosse practice tethered assembly as described in claim 10, wherein the fastener loop comprises hook and loop fasteners on opposite ends of the strap.
- 12. A lacrosse practice tethered assembly as described in claims 10, wherein the lacrosse ball comprises a hole bored therethrough and the elastic cord is secured to the ball by inserting the cord through the hole in the ball.
- 13. A lacrosse practice tethered assembly as described in claim 10, wherein the length of the elastic cord is at least about eight feet.
- 14. A lacrosse practice tethered assembly as described in claim 10, wherein the elastic cord has a diameter in the range of $\frac{1}{16}$ to $\frac{3}{32}$ of an inch.
- 15. A lacrosse practice tethered assembly as described in claim 10, wherein the elastic cord is 104 inches long and $\frac{3}{32}$ " in diameter and has a polyester yarn sheath.
- 16. A lacrosse practice tethered assembly as described in claim 10, wherein the lacrosse stick comprises a shaft and a head, and the fastener loop is removably secured to the shaft.
- 17. A lacrosse practice tethered assembly as described in claim 10, wherein the lacrosse stick comprises a shaft and a head, and the fastener loop is removably secured to the head.
- 18. A lacrosse practice tethered assembly as described in claim 17, wherein the head comprises a mesh portion, and the fastener loop is removably secured to the mesh portion.
- 19. A lacrosse practice tethered assembly as described in claim 17, wherein the fastener loop is removably secured proximate to the top of the head.

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