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**NET FOR BASKETBALL GOAL**

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This invention relates to goal nets for use in basketball and is the general object of the invention to provide an efficient and durable net which will retain its length and shape without entangling or wearing the ball and will by its weight retard the ball to give improved indication that a goal has been scored, together with other advantages to be pointed out hereinafter.

Heretofore, nets have been constructed of cord made of textile fibres, but such a net is flexible enough to wrap around and wear the surface of a ball passing through it. The wrapping of the net may reverse the course of the ball and actually throw it back so that a player is denied a justly earned goal. These defects are due to the flexibility and light weight of the old type of net. Furthermore, the ball will frequently pass through a cord net without being retarded and a referee at a distance has difficulty in making a correct decision. Cord nets also stretch with accompanying change in shape which is not only unsightly but interferes with proper passage therethrough of the ball and comes within reach of the players.

It is an important object of my invention to correct these various defects by providing metal links connected together to form a net having none of the foregoing disadvantages. The links retain their shape and have only a tangential contact with the ball, hence do not fit closely enough to score the ball surface. The ball slides along the metal links without becoming closely wrapped in them and as a result the ball is never thrown out of the net. The links are of sufficient weight to impede the passage of the ball sufficiently to cause a visible retardation which assists the referee in calling a goal correctly. Since my net is metallic it retains its shape and length and will not sag to a length which permits reaching by the average player. The opening at the bottom of my net remains the same diameter and always allows the ball to pass through. In addition, a ball passing through my net will cause a metallic sound which gives an audible signal that a goal has been scored.

With these and other objects in view which will appear as the description proceeds, my invention resides in the combination and arrangement of parts hereinafter described and set forth.

In the accompanying drawing, wherein two convenient embodiments of my invention are set forth:

Fig. 1 is a side elevation of a net made according to the preferred form of my invention.

Fig. 2 is an enlarged detail view of a portion of the net shown in Fig. 1.

Fig. 3 shows the tangential contact between the ball and a link.

Fig. 4 is a detailed sectional view on line 4—4, Fig. 2.

Fig. 5 is a view similar to a part of Fig. 4 but before the suspension eye is closed.

Fig. 6 indicates diagrammatically how the ball and net may be related when a goal is scored.

Fig. 7 is a view similar to the upper part of Fig. 2 but showing a modified form of suspension for the net, and

Fig. 8 is a vertical section on line 8—8, Fig. 7.

Referring to the drawing, the back board may be supported in any approved manner and has mounted thereon a hoop 11 formed if desired of a curved round rod 12. At spaced intervals along the ring are suspension eyes 13 which may have rounded upper ends 14 proportioned to fit the hoop 12, as suggested in Fig. 5. The lower ends of the eye are hooked as at 15, and when these hooks are bent together the shape shown in Fig. 4, shoulders 16 below the hoop form a neck 16 of less width than the diameter of rod 12 to limit upward displacement of the eyes. The lower ends of the hooks are rounded as at 17 and collectively these rounded ends 17 provide the immediate support for the net designated at N.

Each eye 18 passes through a wire ring 20 which in turn passes through eyelets 21 formed on the adjacent ends of a straight wire link 22. Link 22 is horizontal and its length is determined by the top diameter of the net and the number of links used. Other links 23 having eyelets 24 are suspended from the rings 20, as shown in Fig. 2. Links 23 are formed of straight wire and are held diagonally by having their lower eyelets pass through other rings 25 lower than rings 20. Still other links 26 with eyelets 31 interconnected with rings 32 are arranged as shown in the lower part of Fig. 2.

The lowest rings 32 pass through eyelets 35 of horizontal links 35 which are shorter than the top horizontal links 22. There are the same number of long links 22 and short links 36, but the shorter bottom links form an opening of less diameter than that at the top of the net. The diagonal links hang naturally to form a downwardly tapered net the form of which is determined by the length of the bottom links 35. The diagonal links tend by gravity to hang under ring 11 but are drawn to the positions shown in.
2,199,609

Fig. 1 by short links 36 to form a frusto-conical net symmetrical about a vertical axis.

The rings turn in the eyelets during use and thus distribute wear. The freedom of the rings to turn in the eyelets provides a rolling contact between the ball and rings when the latter are struck by the ball. The eyelets are all so placed that their smooth parts are on the inside of the net to avoid abrasion of the ball surface, see Fig. 2.

Whenever the ball, indicated at 3 in Fig. 3, strikes a link the contact is tangential, as shown in that figure, and the actual contact between the ball and the net is limited to a few points of tangency with wires which may be plaited to prevent rust and keep them smooth. The wire of which the links are made is sufficiently thick to prevent bending of the links when struck by the ball and there is no appreciable wrapping of the net around the ball.

When the ball strikes one side of the net, as shown in Fig. 6, the weight of the links on the opposite side causes a retardation of the ball which is clearly visible, and this, together with the metallic clank of the links and rings, afford both visual and audible evidence that a goal has been scored.

In Figs. 7 and 8 I show a modified form of suspension for the net. The hoop 40 corresponding to hoop 11 has depending therefrom a series of wire attaching hooks 41 each formed as shown in Fig. 7 with two spaced sides 42 secured to the underside of the hoop 40. The lower part of hook 41 has a central rebent part 43 the ends of which are spaced from the adjacent vertical sides 42 and project to a position to the left of the sides as shown in Fig. 8. A hanger 45 for each hook 41 is U-shaped and has eyelets 46 at the upper ends thereof. A cotter pin 47 passes through the eyelets 46 and the rebent section 43 by which it is held. Each hanger pivots around its pin and passes through one of the rings 20, in this way supporting the net, which may be made as in the preferred form of the invention. By this construction the top of the hoop 40 is smooth and uninterrupted.

From the foregoing it will be seen that I have provided a basketball net made of metallic links and rings possessing several advantages. The net does not wrap around the ball and is of sufficient weight to retard the ball. Turning of the rings distributes wear and the short bottom horizontal links give the net its necessary conical form. All the diagonal links are of the same length and their metallic nature produces an audible signal when a goal is scored. The metal links insure retention of the original length of the net and the latter hangs naturally because of the freedom of the joints and the uniform length and weight of the diagonal links. Numerous tests show that the net will not reverse the direction of the ball to throw it out of the top rings.

Having thus described my invention it will be seen that changes and modifications may be made therein by those skilled in the art without departing from the spirit and scope of the invention and I do not wish to be limited to the details herein disclosed, but what I claim is:

1. In a basketball net, a supporting hoop, a plurality of vertically spaced horizontal series of spaced metallic rings, horizontal metallic links alternated with the rings of the top series, other shorter horizontal metallic links alternated with the rings of the bottom series, and diagonal metallic links extending between the rings of adjacent series, each ring of each series between the top and bottom series being connected to two diagonal rings thereabove and two other diagonal rings therebelow, the rings of the top series being connected to the suspension eyes.

2. In a basketball net, a supporting hoop, spaced suspension eyes depending from the hoop, a plurality of vertically spaced horizontal series of spaced metallic rings, horizontal metallic links alternated with the rings of the top series, other shorter horizontal metallic links alternated with the rings of the bottom series, and diagonal metallic links extending between the rings of adjacent series, each ring of each series between the top and bottom series being connected to two diagonal rings thereabove and two other diagonal rings therebelow, the rings of the top series being connected to the suspension eyes.

3. In a basketball net, a supporting hoop, spaced suspension eyes depending from the hoop, a metallic ring loosely connected to each eye, horizontal metallic links alternated with and loosely connected to the rings, vertically spaced horizontal series of diagonal links, two diagonal links from each series of links connected to each ring of the series, and rings loosely connecting the lower ends of each pair of links in the bottom series, and a horizontal series of metallic links alternated with and loosely attached to the rings connected to said pairs of links and shorter than the first named horizontal links.

4. In a basketball net, a supporting hoop, spaced suspension eyes depending from the hoop, metallic rings and diagonal links, horizontal metallic links loosely connecting and alternated with the rings of the top series of rings, and other shorter horizontal metallic links connecting and alternated with the rings of the bottom series of rings, each ring in each series between the top and bottom ring series being connected to two diagonal links of adjacent link series, and the rings of the top ring series being loosely connected to the eyes.

5. In a basketball net, a supporting hoop, spaced suspension eyes depending from the hoop, vertically spaced horizontal series of rings, each ring of the top series loosely connected to a suspension eye, horizontal metallic links loosely connected to and alternated with the rings of the top series, shorter horizontal metallic links loosely connected to and alternated with the rings of the bottom series, and other metallic links extending between adjacent ring series, each of said other links loosely connected to a ring in one ring series and to another ring in the adjacent ring series.

6. In a basketball net, a supporting hoop, spaced suspension eyes depending from the hoop, vertically spaced horizontal series of rings, each ring of the top series loosely connected to a suspension eye, horizontal metallic links loosely connected to and alternated with the rings of the top series, shorter horizontal metallic links loosely connected to and alternated with the rings of the bottom series, and other metallic links extending between adjacent ring series, each ring being loosely connected to four links.

7. In a basketball net, a fixed supporting ring, a series of horizontal metallic links, connecting rings alternated with and loosely connected to the links, suspension means to connect the supporting ring with the connecting rings, a plurality of vertically spaced horizontal series of diagonal metallic links, the upper tier loosely attached to said connecting rings, other connecting rings attached loosely to the adjacent ends of the links in adjacent tiers, bottom connecting rings connected to the lower ends of the links in the bot-
8. In a basketball net, a horizontal supporting hoop, a series of spaced rings arranged in a horizon
tal plane under the hoop, means to suspend the rings from the hoop, a plurality of vertically spaced horizontal series of rings below the first series, and a plurality of wire links having eyelets on their ends, each eyelet receiving a ring, certain of the links being horizontal and alternated with the rings of the first series of rings, other shorter links beinghorizontal and alternated with the rings of the lowest series of rings, and still other of the links extending diagonally between the rings of adjacent series, each ring of the first and bottom series being connected to a pair of diagonal links and each ring of the other series connected to a pair thereof and another pair thereunder of the diagonal links.

9. In a basketball net, a horizontal supporting hoop, a series of spaced rings supported by the hoop, a plurality of other series of rings arranged in vertically spaced horizontal planes under the first series, and a plurality of rigid links having eyelets on their ends, each eyelet receiving a ring, certain links being horizontal and alternated with the rings of the first series, other shorter links being horizontal and alternated with the rings of the lowest series of rings, and still other of the links extending diagonally between the rings of adjacent series of rings, each ring of the first and bottom series being connected to a pair of diagonal links and each ring of the other series connected to two pairs of diagonal links, one pair thereof and the other pair thereunder, the diagonal links being all of the same length.

10. In a basketball net, a horizontal supporting hoop, a series of spaced hooks depending from the underside of the hoop, a hanger having spaced eyelets for each hook, a pin passing through the eyelets of each hanger and also the corresponding hook, and a net formed of interconnected rings and wire links, each hanger passing through and supporting a ring of the net. 11. In a basketball net, a horizontal supporting hoop, a series of spaced rings supported by the hoop, a plurality of other series of rings arranged in vertically spaced horizontal planes under the first series, and a plurality of rigid links having eyelets on their ends, each eyelet receiving a ring, certain links being horizontal and alternated with the rings of the first series, other shorter links being horizontal and alternated with the rings of the lowest series of rings, and still other of the links extending diagonally between the rings of adjacent series of rings, each ring of the first and bottom series being connected to a pair of diagonal links and each ring of the other series connected to two pairs of diagonal links, one pair thereof and the other pair thereunder, the diagonal links being all of the same length.

12. In a basketball net, a horizontal supporting hoop, a series of spaced rings supported by the hoop, a plurality of other series of rings arranged in vertically spaced horizontal planes under the first series, and a plurality of rigid links having eyelets on their ends, each eyelet receiving a ring, certain links being horizontal and alternated with the rings of the first series, other shorter links being horizontal and alternated with the rings of the lowest series of rings, and still other of the links extending between adjacent series of rings, each ring of the series between the first and bottom series being connected to four of said other links.

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