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(54) Tambourine frame structure.

(57) The tambourine comprises a frame (1) and a metal ring (3) associated thereto and effective to take over the stresses created by the tambourine membrane (2) in such a way as to prevent the frame form deforming due to additional stresses acting thereon during the playing. Thus, owing to the presence of the reinforcing metal ring (3), there are obviated both twisting and out-of-round problems in the tambourine frame (1) and, in addition, the center of gravity of the tambourine is brought closer to the membrane thereby improving stability and controllability as the ball is hit.

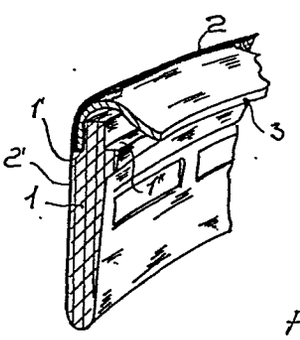

Fig.2

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TITLE MODIFIED

This invention relates to a tambourine frame structure for playing with small balls and the like.

To obtain an implement with good characteristics, it is known that the membrane of tambourine must be stretched on the frame with considerable force.

In addition to this routine stress, the frame is also subjected to the stresses generated while practicing the game.

For these reasons, the traditional wooden frame has been abandoned in favor of stronger frames of plastics, which fail, however, to satisfactorily solve the deformation problem.

That deformation revealsitself both in the frame getting out of round, twisting, and breaking, especially along the opposite edge to the edge whereon the membrane is stretched. In fact, the impact stress of the ball onto the membrane behaves as the power of a first order lever having its fulcrum located at an approximately middle region of the frame, and the resistance at the opposite edge of the membrane.

In order to obviate said breaking effect, during the molding stage, undisclosed attempts have been made to embed a wire length into the stressed edge. However, this solution remained disadvamtageous in that the center of gravity of the tambourine moves away the membrane, thus creating problems of unbalance upon hitting the ball.

Accordingly the task of this invention is to pro-

vide a tambourine frame structure which can obviate the problems and deficiencies of prior ones.

Within this task it is an object of the invention to provide such a structure which is as far as possible indeformable under the stresses imposed by both the membrane tension and the playing activity.

Yet another object is to provide such a structure which can be readily implemented with conventional techniques and equipment.

The aforesaid task and objects as well as yet other objects which will be more apparent hereinafter, are achieved by a tambourine frame structure, comprising a substantially cylindrical frame with an outer and an inner periphery thereof and a stretched membrane extending over the area encircled by said frame and fixed on said frame, characterized by a metal ring member circumferentially coextensive with said cylindrical frame and having at least one portion thereof in stress resisting circumferential engagement with at least one longitudinal part of said cylindrical frame.

Further features and advantages of the invention will be more clearly understood from the following detailed description of a preferred embodiment, given herein by way of example and not of limitation, and illustrated in the accompanying drawings, where:

Figure 1 is a perspective partly sectioned view illustrating a tambourine frame structure according to the shown embodiment;

Figure 2 is a fragmentary sectional view taken

along the line II-II of Figure 1;

Figure 3 is a sectional view through the metal ring associable to the subject tambourine frame structure; and

Figures 4 and 5 illustrate variations of the ring shown in Figure 3.

With reference to the drawing figures, the shown tambourine frame structure comprises a frame 1, of substantially cylindrical configuration, whereon a membrane 2 is stretched in a conventional known way, whereby a cylindrical flap 2' of the membrane strongly adheres against the side wall of the frame 1.

More specifically the frame 1 may be conveniently formed by any suitable plastics material injection process.

During assembling, a metal ring 3 is inserted between the frame and membrane, which ring is configured such that, in cross-section, it comprises a lip 4 engaging with an edge thereof into a seat 1' formed on the outer periphery of the frame 1, and a rounded region 5 provided for contacting the membrane, and an inner flange formation 6.

It should be noted that the cited three parts of the reinforcing ring 3 are an integral construction, and so configured as to react to stresses regardless of how applied, thus preventing both twisting and out-of-round problems in the tambourine frame.

The rounded portion 5 of the ring 3 serves the purpose to gradually distribute the stresses acting on the membrane.

In a simplified embodiment, the ring 3 may be cylindrically configured as shown in Figure 4, to only resist stresses tending to twist the frame; in this case it may be advantageously embedded in the frame and arranged in the seat 1'' provided on the inner periphery of the frame 1.

According to yet another variation, shown in Figure 5, the ring has a flat shape lying in a plane perpendicular to the axis of the frame 1 and arranged in the seat 1'' thereby being effective to prevent the frame from getting out of round.

Obviously it should also be noted that, during the frame forming operation, one or more such rings may be inserted, depending on the tambourine height and the stresses which the tambourine structure is to withstand.

In addition to the cited advantage of structural strength, with metal rings of the type illustrated, the center of gravity of the tambourine is brought closer to the membrane, with considerable attendant improvement in stability and controllability as the ball is being hit.

Of course, such rings and the frame may have any desired size, and the material employed may be any selected one for the intended application.

CLAIMS

1. A tambourine structure, comprising a substantially cylindrical frame (1), with an outer and an inner periphery thereof and a stretched membrane (2) extending over the area encircled by said frame (1) and fixed on said frame (1), characterized by a metal ring member (3) circumferentially coextensive with said cylindrical frame (1) and having at least one portion thereof in stress resisting circumferential engagement with at least onelongitudinal part of said cylindrical frame (1).

2. A tambourine structure according to Claim 1, wherein the membrane (2) has a circular flap (2') which extends with its edge over said outer periphery of said cylindrical fram (1), characterized in that said ring member (3) has at least one portion (4) thereof in circumferentially mating engagement with at least one longitudinal part of said outer periphery, said portion (4) of said ring member (3) being arranged between said membrane flap (2') and said outer periphery to thereby take over the tension stresses exerted by the membrane (2).

3. A tambourine structure according to Claim 1, characterized in that said ring member (3) has a cross-section with a first annular portion (4) associated with said outer periphery (1) and extending normal to the membrane (2) plane and a second annular portion (6) extending substantially parallel to said membrane (2) plane.

4. A tambourine structure according to Claim 3, characterized in that said two portions (4,6) forming said ring member (3) are joined together by an arcuate

region (5) in direct contact with said membrane (2).

5. A tambourine structure according to one or more of the preceding claims, characterized in that said ring member (3) is shaped as a sleeve coaxial with the axis of said cylindrical frame and in abutment engagement with said inner periphery.

6. A tambourine frame structure according to Claim 1, characterized in that said ring member is flat and in abutment engagement with said inner periphery.

7. A tambourine frame structure, substantially as herein described and illustrated.

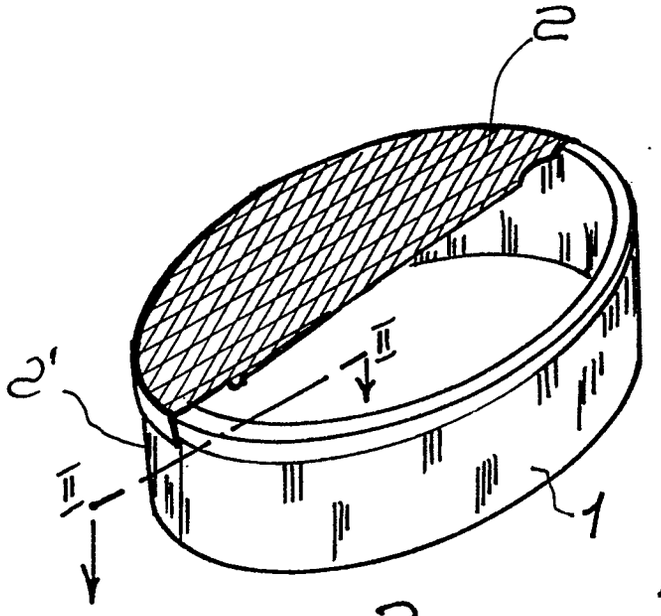

Fig.1

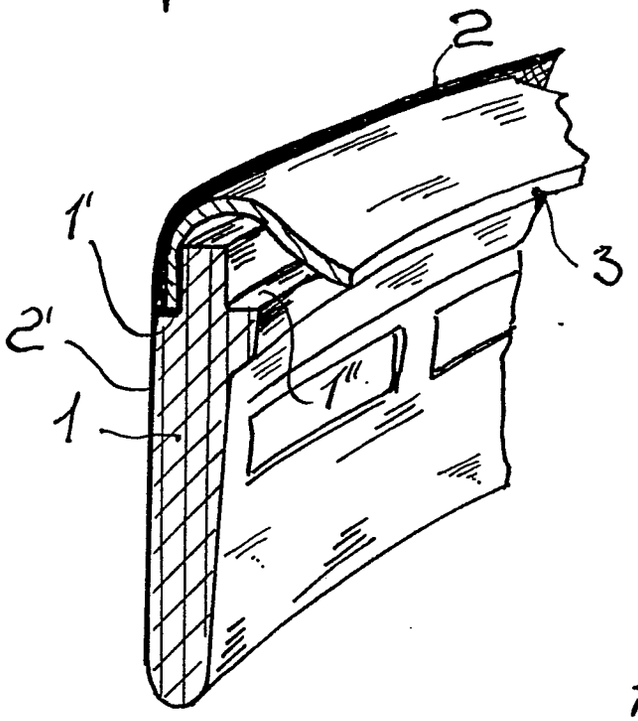

Fig.2

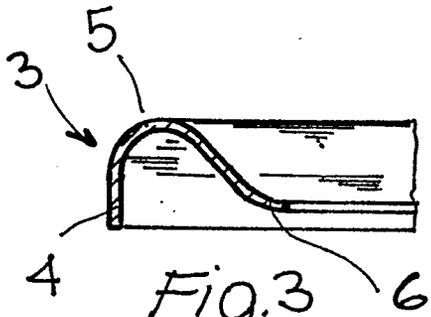

Fig.3

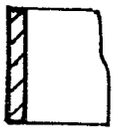

Fig.4

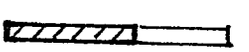

Fig.5

European Patent Office

EUROPEAN SEARCH REPORT

Application number

EP 82 10 2625

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Y	US-A-3 680 425 (J.MORENA et al.) *Column 3, lines 26-28; claim 1; figure 5*	1,5	G 10 D 13/02
Y	US-A-1 589 887 (G.H.LOGAN) *Claim 1; page 1, lines 40-46; figure 2*	1,5	
A	US-A-1 752 568 (J.A.MEYER) *Page 1, lines 43-48; figure 3*	2,3,4	
A	US-A-1 443 191 (J.A.MEYER) *Figure 2*	5	

TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

G 10 D 13

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	05-10-1982	HAASBROEK J.N.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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D : document cited in the application
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