

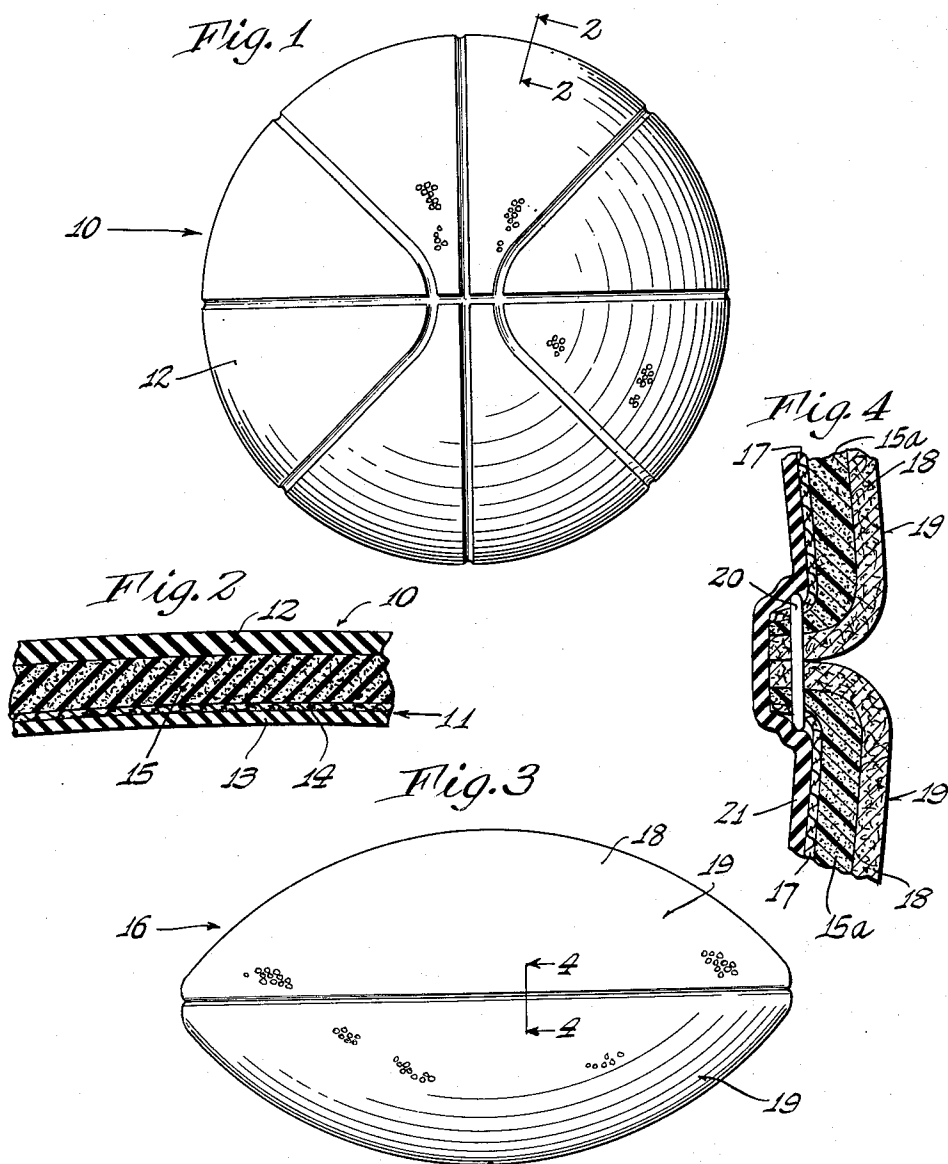
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INFLATED GAME BALL

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1

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INFLATED GAME BALL

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This invention relates to inflated game balls or the like. More specifically, it pertains to the provision of an improved wall structure for game balls which is adapted to enhance the playing qualities thereof.

Heretofore, efforts have been made in connection with footballs, basketballs and the like to improve the grippability or handling ability of the ball as by the use of special treatments of leather covers or by incorporating substances in the rubber cover to present a tacky surface to permit the ball to be readily gripped and handled. This is particularly true when the ball is inflated to the desired amount to provide the required rebound and other characteristics.

It is an object of the present invention to provide an improved inflated game ball of the type adapted to be kicked or gripped in play wherein the grippability of the ball is enhanced without detracting from the rebound of the ball.

This is accomplished in accordance with the present invention by providing a sponge layer between the inner carcass and the outer cover which provides sufficient yielding of the outer surface of the ball when gripped to enhance the handling thereof and yet permits the ball to be inflated to the required amount to secure its desired rebound. In accordance with the present invention the sponge layer can be formed in situ as in a molded ball or can be formed as a separate layer and inserted between the cover and the inner carcass as the ball is built up.

With the ball of the present invention a thinner cover structure may be used and still retain the required weight in the ball while at the same time permitting a more secure gripping of the ball due to deflection of the cover under gripping pressures.

While the invention facilitates the gripping of the ball, as required for the handling of footballs and basketballs, it also enhances the playability of the ball in other respects relating to the depressibility of the cover thereof.

It is, therefore, also an object of the invention to provide an inflated game ball that may have its internal pressure increased for improving the rebound qualities thereof, without unduly hardening the surface of the ball so that its playing qualities are adversely affected.

Another object of the invention is to provide an improved wall structure for inflated game balls which includes a layer of sponge material between the inner carcass of the ball and the cover thereof for enhancing the playing qualities of the ball.

Still another object of the invention is to provide a molded inflated game ball, wherein a sponge layer is disposed around the inner carcass of the ball adjacent the molded cover thereof for improving the feel, rebound, sound and grippability of the ball.

A further object of the invention is to provide a wall structure for a sewn game ball including a sponge layer disposed between the inner carcass of the ball and the leather cover thereof.

Other objects and advantages of the invention will be apparent from the specification and claims when considered in connection with the attached sheet of drawings, illustrating one form of the invention, wherein like characters represent like parts and in which:

FIGURE 1 is an elevational view of a molded basketball embodying the invention;

2

FIG. 2 is a fragmentary cross-sectional view taken in the direction of the arrows 2-2 in FIG. 1;

FIG. 3 is an elevational view of a sewn football embodying the invention; and

FIG. 4 is a fragmentary cross-sectional view taken in the direction of the arrows 4-4 in FIG. 3.

The invention resides in the inclusion in the wall structure of inflated game balls or the like of the type adapted to be gripped or kicked in play, regardless whether they be molded or sewn balls, of sponge material adapted to facilitate the depression of the cover of the ball while the internal pressure thereof is maintained at a desired level for rebound and other purposes. As the term sponge material is used herein, it is intended to cover any resilient, deformable, cellular, elastomeric material such as natural or synthetic sponge or foam rubber, plastic or the like free of fibrous reinforcement.

Referring now to the drawings, in FIGS. 1 and 2, a molded basketball generally indicated by the numeral 10 is shown embodying the invention. In accordance with conventional practice, the molded basketball includes an inner carcass 11 and a cover 12. While the inner carcass may be formed of a plurality of layers of any material commonly known and used in the art, in the illustrated form of the invention it is shown as including a bladder 13 and a rubberized fabric carcass 14 therearound. Disposed between the inner carcass 11 and the cover 12 of the ball is a layer of sponge material 15 which is adapted, as aforementioned, to facilitate the depression of the cover 12 when the ball is inflated so that the ball may be more readily gripped. The cover 12 of the molded ball, while it may be of rubber, leather or any other well known material and may be of conventional thickness, is in the preferred form of the invention formed of thinner material than that which is normally used to enable it to be readily depressed into the sponge layer. It will be understood that the additional space taken up by the sponge layer in the wall of the ball is compensated for and the ball is maintained at substantially the same diameter as in balls of conventional structure.

In the manufacture of a molded game ball embodying the concepts of the present invention the inner carcass of the ball is formed in the usual manner and a sponge layer is formed thereover. While the sponge layer may be formed by positioning a layer of sponge material around the inner carcass, in the preferred form of the invention an elastomeric material having a sponge forming agent therein is disposed around the inner carcass and the cover is then formed over and around the layer. Thereafter, when the ball is molded to form it, the sponge forming agent in the elastomeric material is activated and the sponge layer is produced. It will be readily understood by those familiar with the art that where the molded ball is to be formed with a leather cover the sponge layer may be produced during the molding of the inner carcass, prior to the application of the cover thereover.

In FIGS. 3 and 4 a sewn football 16 is shown which also embodies the invention. As is the practice in balls of this type, the inner carcass 17, which may be fabric or the like, and leather cover 18 are superposed to form panels 19 which are thereafter assembled and sewn together by stitches 20 to form a completed ball. In the embodiment of the invention shown in FIGS. 3 and 4 a layer of sponge material 15a is disposed between the inner carcass 17 and the cover 18 in each of the panels prior to the assembly of the ball so as to facilitate depressing the cover of the ball to grip or kick the same against the internal pressure thereof. In sewn inflated balls, which do not require a molding step in their manufacture, a preformed sponge material is utilized such as urethane sponge or the like. After the panels of superposed inner carcass,

preformed sponge material and leather cover material have been sewn together to form the body of the ball, a bladder 21 of conventional form is inserted within the ball and inflated therein.

By means of the invention as afore-described, molded and sewn inflated game balls, which conform to standard requirements of size and weight, are provided having enhanced gripping and related playing characteristics.

Thus, among others, the several objects of the invention as aforementioned are achieved. Obviously, numerous changes in the structure may be resorted to without departing from the spirit of the invention as defined by the claims.

We claim:

1. In an inflated game ball of the type adapted to be gripped or kicked in play having an inner carcass provided with fibrous reinforcements therein and a cover therearound; the improvement comprising solely a cellular sponge layer disposed between said inner carcass and said cover for facilitating depression of the cover, whereby the playability of the ball is enhanced.

2. In an inflated game ball of the type adapted to be gripped or kicked in play having an inner carcass provided with fibrous reinforcements therein and a cover therearound; the improvement comprising a cellular sponge layer disposed entirely between said inner carcass and said cover, said cover being relatively thin as compared to the sponge layer whereby said cover is readily depressed into said sponge layer to facilitate gripping the ball.

3. In an inflated game ball of the type adapted to be gripped or kicked in play having a molded fiber reinforced inner carcass and a relatively thin cover molded therearound; the improvement comprising a cellular sponge layer disposed between said fiber reinforced inner carcass and said cover for facilitating depression of the cover, whereby the playability of the ball is enhanced.

4. In an inflated game ball of the type adapted to be gripped or kicked in play having an inner carcass and a leather cover sewn thereto; the improvement comprising a cellular sponge layer sewn between said inner carcass and

said cover for facilitating depression of said leather cover, whereby the playability of the ball is enhanced.

5. An inflated game ball of the type adapted to be gripped or kicked in play comprising an inflatable molded fiber reinforced inner carcass, a relatively thin molded cover formed around said carcass and a layer of sponge material disposed entirely outside said carcass between said carcass and said cover, said cover being adapted to be readily depressed into said sponge layer whereby the gripping of the ball is facilitated.

6. An inflated game ball of the type adapted to be gripped or kicked in play comprising an inflatable bladder, an inner carcass including fibrous material formed therearound, a cover sewn to said carcass and substantially completely covering the same and a layer of cellular sponge material disposed between said cover and carcass and retained in position by the sewn stitches therebetween, said sponge layer being readily depressed by external pressure applied to said cover, whereby the grippability of the ball is enhanced.

7. An inflatable game ball of the type adapted to be gripped or kicked in play comprising a plurality of panels sewn together around the edges thereof and enclosing an inflatable bladder therein, each panel comprising an inner fabric carcass, a layer of cellular sponge material and an outer cover, said cover being adapted to be readily depressed into said sponge layer whereby the playability of the ball is enhanced.

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