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M. B. REACH

2,219,078

PLAY OR GAME BALL

Filed Nov. 30, 1938

Fig. 2.

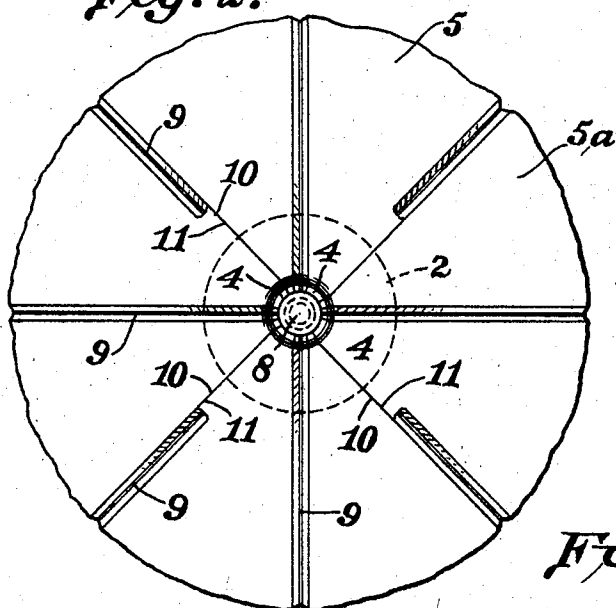


Fig. 1.

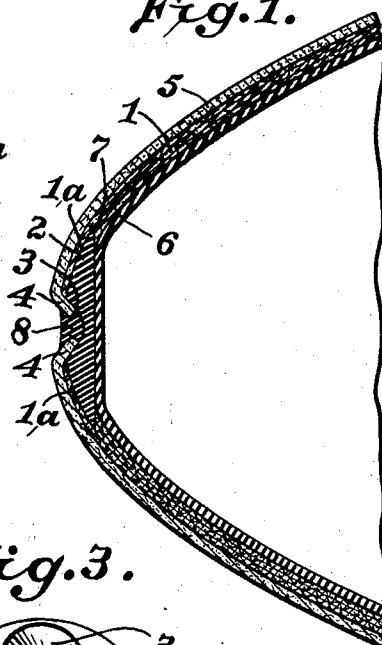


Fig. 3.

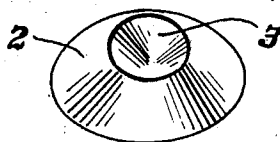


Fig. 4.

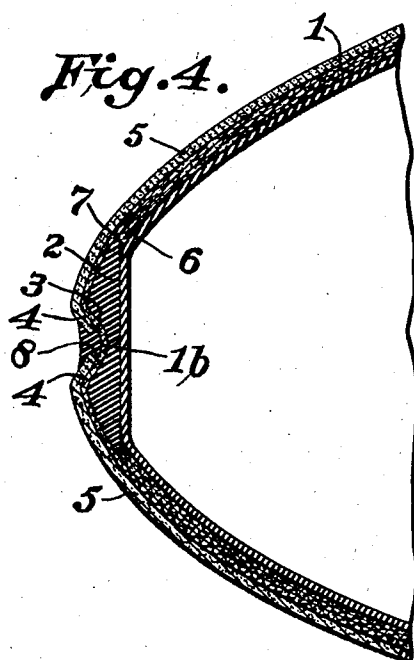
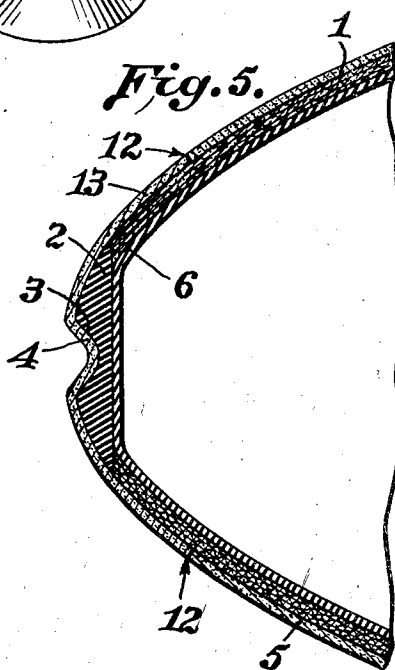


Fig. 5.



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UNITED STATES PATENT OFFICE

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PLAY OR GAME BALL

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Application November 30, 1938, Serial No. 243,272

15 Claims. (Cl. 273-65)

My present invention relates to play or game balls, and more particularly to such balls as are employed in the game of football or the like having a substantially spheroidal shape with tapering ends.

An object of the invention is the provision of a novel construction of such a ball having features which simulate the appearance, feel, and action, of the known sewed type of ball.

A further object is to provide an end construction for the ball with provision for protecting and anchoring ends of portions of the covering material of the ball.

Other objects will appear hereinafter, the invention comprising the features, combination and arrangement of parts hereinafter described and particularly pointed out in the appended claims.

In the drawing:

Figure 1 is a sectional view of the end portion of a ball embodying one form of the invention.

Fig. 2 is a similar view of another form of construction according to the invention.

Fig. 3 is a view of a further form.

Fig. 4 is an end view showing one form of end construction, such as is shown also in connection with Fig. 1.

Fig. 5 is an end view of another form of end construction such as is shown also in connection with Fig. 1.

Referring to the drawing, 1 represents the carcass or body of the ball which is of textile material, desirably comprising layers. The textile material forming the carcass may, however, be formed in any desired way. It may desirably be of cord-wound type substantially as disclosed in my application Serial No. 128,672, filed March 2, 1937, or it may be of the type formed of layers of textile fabric, or of any other construction.

According to the invention, a washer member or end piece 2, desirably of rubber, and provided with a recess 3 in its outer face, is placed at the end of the carcass in contact therewith, and may desirably be so disposed as to form substantially a part or extension of the carcass wall.

By means of the recess or depression 3 in the washer or member 2, provision is made for receiving a turned in portion, or portions, 4 of the covering material 5 of the ball, which covering material is preferably of leather.

A bladder member or lining 6 is shown within the carcass of the ball inflatable by means of a suitable valve (not shown).

The washer member or insert 2 is preferably of a generally tapered or conical form at the

front or outer side, and may be of substantially flat, or other shape, at the inside. The recess 3 is preferably formed substantially centrally of the tapered or conical outer face of the washer member 2 as by molding thereon, and the recess may itself desirably be tapered or substantially conical, substantially as shown.

The washer member or end piece 2 is preferably of a material, such as relatively hard rubber, having a deadening, non-resilient character or quality to simulate the action of the ordinary football with sewn seams whose action is deadened at the end by the converging intumed seams of the sewn ball.

A desirable construction embodying the invention is illustrated in Figs. 1 and 2, wherein an opening is provided in the end of the carcass, and the washer 2 abuts a portion of the end edges 7 of the carcass with the outer layer 1a of the carcass being extended as shown to overlie the outer conical or tapered face of the washer member 2. The covering material, as shown, may desirably comprise panels 5, the ends 4 of which are turned into the recess 3 and are secured therein. A desirable means of securing the ends of the covering panels in the recess comprises a piece of rubber 8 inserted between and in contact with the intumed ends 4 of the covering panels, and into contact with the material providing the recess, such as the material of the washer itself, as in Fig. 1. In subjecting the ball to a moulding operation, the rubber piece 8 penetrates the joints between the intumed ends of the covering panels and is vulcanized to the foundation layer beneath. The continuous lengthwise strips or panels 5 of covering material such as leather are desirably cemented over the surface of the carcass of the ball with the vulnerable pointed ends folded in the recess out of the way and anchored by the overlying adhesive member or rubber piece vulcanized in place. This firmly locks the ends of the leather panels to the carcass and prevents peeling thereof. Cement may also be used to secure the intumed ends to the underlying material.

If the ball is of a type providing a channel seam, such, for instance, as is described in my applications 177,326, filed November 30, 1937, or 185,037, filed January 24, 1938, the edge of the covering panels 5 are spaced apart and abut the opposite side of the channeled ridge 9. Adjacent the intumed ends of certain of the covering panels, however, they may desirably be constructed to abut each other as shown at the abutting seams 10 in Fig. 2. Thus, to avoid

crowding of too many of the channeled ridges 9 converging at the small area at the end of the ball, alternate ones are desirably stopped short of the end of the ball, and the end portions of the panels abut at these points. With this construction, each of the panels 5 has a portion forming part of one of the abutting seam portions 10. The panels may be made to abut at the seams 10 by providing an offset portion 11 on one or both of the abutting panels.

As an alternative construction, the covering panels 5 and channeled ridges 9 may desirably be stopped short of the poles of the ball as at a suitable point 12, as indicated in Fig. 5, and a single formed end cap 13 preferably of pressed leather shaped to conform to the recessed rubber washer, may be applied over the carcass of the ball and cemented thereto with the circumferential edge of the formed leather end abutting the end edges of the covering panels. It will be apparent that the end cap 13 shown in Fig. 5 is equally applicable to the form of construction of carcass and washer shown in Fig. 1, or in Fig. 4.

If desired, the recessed washer 2 in any of the forms shown in Fig. 1, 4, or 5, may simply abut the ends of the carcass layer 1, as shown in Fig. 5.

Also, as indicated in Fig. 4, there may be no openings in the ends of the carcass, the closed end of the carcass 1, in one or more layers, overlying the recessed washer member 2 and extending into the recess 3 as shown. The carcass portion 1b may desirably be cemented to the washer member 2, and the covering material 5 may be applied thereto as shown in Fig. 4, and as described in connection with Fig. 1, or may be applied in the form of the end cap construction, as shown in Fig. 5, in which case the end cap 13 of covering material is cemented to the carcass of Fig. 4.

In any of the forms shown, suitably closed openings (not shown) may be provided at some point on the carcass other than at the ends or poles of the carcass, for removal of the form, such as of wax. In this connection, reference is made to my application Serial No. 144,938, filed May 26, 1937. Or the form may be removed through an end opening of the carcass as in my application Serial No. 128,672, filed March 2, 1937. It will be understood that features shown in connection with one form of the invention, and capable of use with other forms, are to be considered as disclosed with said other forms within the scope of the invention.

A football or the like is provided by the present invention which simulates or reproduces the appearance and feel of the ordinary sewed type of ball, while eliminating the stitched seams. Control is also obtained of the resiliency of the end portion by embodying in the depressed end relatively deadened or inert material, in further simulation of the action of the sewn type of ball.

I claim:

1. An inflatable play or game ball of ellipsoidal shape with tapering ends and having a carcass or body portion, an end member or washer disposed at the tapered end of the carcass and in engagement therewith, said end member having a depression in its outer face providing a recess, and a layer of covering material overlying the carcass member and having a portion extending into said recess and secured therein.

2. An inflatable ball according to claim 1 in which said overlying covering material comprises

panels having end portions extending into said recess and secured therein.

3. An inflatable ball according to claim 1 in which said overlying covering material includes a cap member overlying the end of said ball and having a portion shaped to extend into said recess.

4. An inflatable ball according to claim 1 in which said overlying covering material comprises a cap member of covering material overlying the end of said ball and having a portion shaped to extend into said recess, and panels of covering material having edge portions abutting the edge of said cap member.

5. An inflatable ball according to claim 1 in which said carcass has an opening at the tapered end thereof, said end member or washer being disposed in said opening.

6. An inflatable ball according to claim 1 in which said carcass has an opening at the tapered end thereof, said end member or washer being disposed in said opening, said overlying covering material comprising panels having end portions extending into said recess, and sealing means of rubber or the like securing said end portions to said recessed member.

7. An inflatable ball according to claim 1 in which said carcass has an opening at the tapered end thereof, said end member or washer being disposed in said opening, said overlying covering material including a cap member overlying the end of the ball and having a portion shaped to extend into said recess, and means securing said portion to said recessed member.

8. An inflatable ball according to claim 1 in which said carcass has an opening at the tapered end thereof, said end member or washer being disposed in said opening, said overlying covering material comprising panels having end portions extending into said recess, and sealing means comprising an adhesive insert securing the ends of said panels within said recess.

9. An inflatable ball according to claim 1 in which said carcass overlies the recessed washer and is shaped to extend into said recess, and means for securing the carcass to the recessed washer and means for securing the covering material to said carcass.

10. An inflatable ball according to claim 1 in which the wall of said carcass comprises inner and outer portions, said carcass having an opening at the tapered end thereof, said end member or washer being disposed in said opening with the outer portion of the carcass wall being extended to overlie a portion of the outer face of said washer and the inner portion of the carcass wall being disposed in engagement with another portion of said washer.

11. An inflatable ball according to claim 1 in which said overlying covering material comprises panels having end portions extending into said recess and secured therein, each of said panels having a portion of a side edge thereof in substantially abutting relation with a portion of a side edge of an adjacent panel near the end of the ball, the said side edges of said panels being constructed and disposed in relation to each other, toward the central part of the ball to provide for a channel seam or groove, said abutting panel portions being disposed on one side edge only of the panels, the opposite side edge of each panel being constructed and disposed in relation to the adjacent panel on that side to provide a channel seam or groove throughout its length, thereby providing alternate full length channel

seams or grooves extending from end to end of the ball and alternate channel seams or grooves terminating short of the ends of the ball.

12. An inflatable ball according to claim 1 in which said carcass has an opening at the tapered end thereof, said end member or washer being disposed in said opening, said overlying covering material comprising panels having end portions extending into said recess, and sealing means of rubber or the like securing said end portions to said recessed member, said rubber sealing means being moulded to the intumed ends of the panels and to material constituting the wall of said recess.

13. An inflatable play or game ball of ellipsoidal shape with tapering ends comprising a carcass or body portion, said carcass providing a substantially circular recess or depression at a tapered end thereof, and a layer of covering

material overlying the carcass and having a portion extending into said substantially circular end recess and secured therein.

14. An inflatable ball according to claim 13 in which said covering material comprises panels having end portions extending into said substantially circular end recess and secured therein.

15. An inflatable ball according to claim 13 in which said covering material comprises panels having end portions extending into said substantially circular end recess and secured therein, said covering panels being so constructed and disposed in relation to each other as to provide a channel or groove at their adjacent edges, said channel or groove at the adjacent edges of the cover panels extending from turned in end to turned in end of the panels and ball.

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