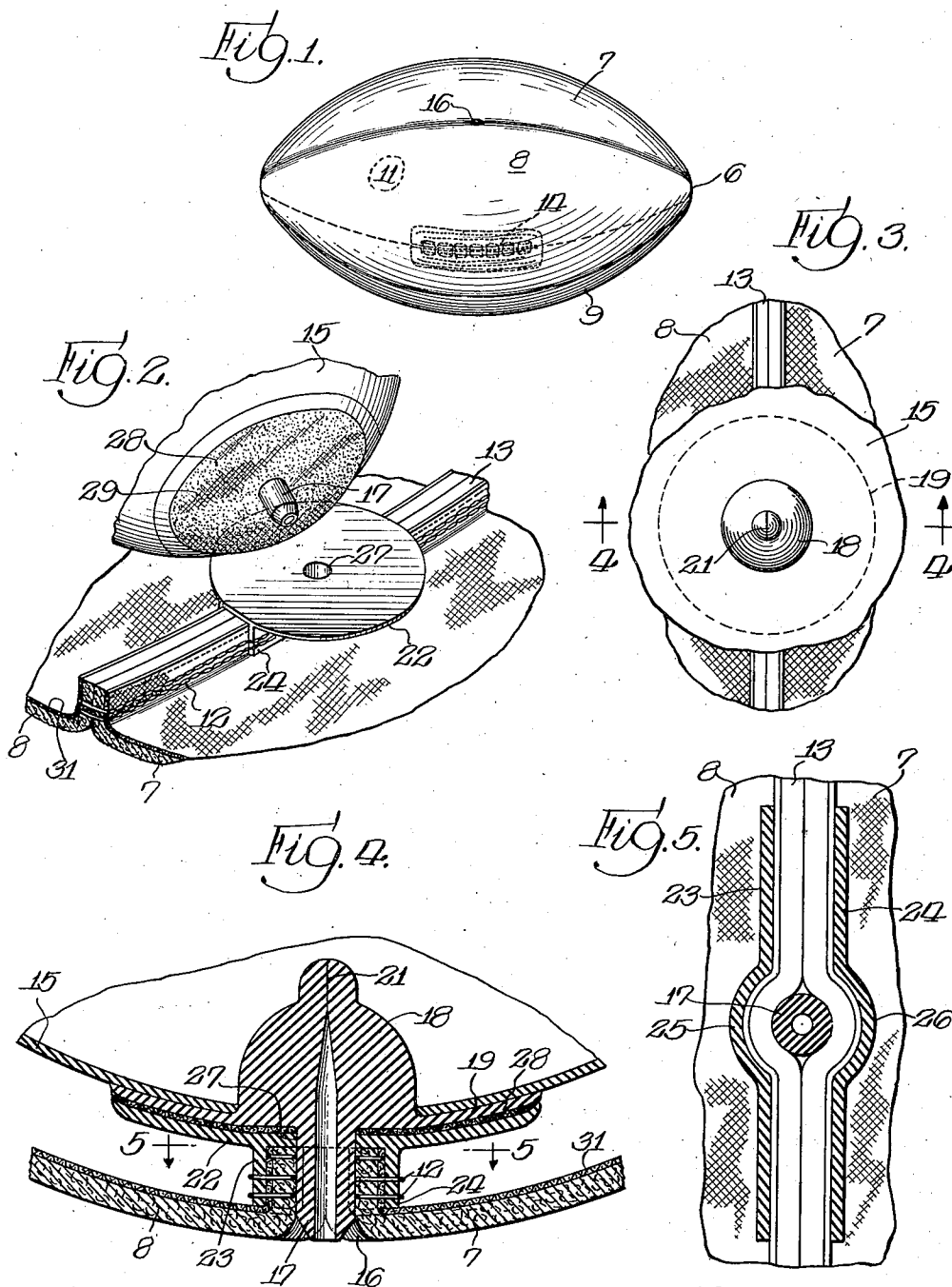


May 18, 1937.

D. LEVINSON
INFLATABLE BALL
Filed Nov. 4, 1936

2,080,894



Inventor:-
David Levinson,
By: Wilson, Howell, McConna & Foley
Attys.

UNITED STATES PATENT OFFICE

2,080,894

INFLATABLE BALL

David Levinson, Chicago, Ill.

Application November 4, 1936, Serial No. 109,077

3 Claims. (Cl. 273-65)

This invention relates to inflatable balls, such as footballs, basketballs, and the like, and more particularly to that type which includes an inflatable bladder provided with a rubber inflation valve having an outwardly projecting stem through which the bladder is inflated.

It has heretofore been the practice to anchor the bladder in the cover so as to retain the nipple in position accessible for inflation purposes, by providing an opening through the cover between the seams, sewing a perforated patch of leather or similar material to the inside of the cover by stitches passing through the cover and the patch, positioning the nipple in this opening from the inside of the cover, and cementing the bladder to this patch.

In this type of construction the patch holding stitches are exposed on the outside of the ball where they are subjected to wear and abrasion in use, with the result that they loosen and break. Furthermore, the hole through the cover penetrates not only the external leather but also the internal cloth lining of the cover, consequently this lining stretches and tears around the opening, thereby shortening the life of the ball. In addition, the thick leather patch around the opening, together with the sewing of the patch to the cover, produces a hard spot on the ball which reduces the elasticity and affects the bouncing of the ball both as to extent and direction.

My present invention is designed to obviate the objectionable features above noted by eliminating the hole through the body of the leather cover and through the fabric lining and by eliminating the thick leather internal patch and the stitching by which it is secured to the cover around the opening. Furthermore, my invention enables a better balancing of the ball by locating the inflation nipple directly opposite to the cover lacing and eliminates the hard spot prevalent in the former type by positioning the inflation nipple in the seam itself between two adjacent sections of the cover.

The foregoing and other objects and advantages of my invention will be readily appreciated as the same becomes better understood by reference to the following description when considered in connection with the accompanying drawing.

Referring to the drawing,

Fig. 1 is a side elevation of a ball embodying my invention;

Fig. 2 is a fragmentary perspective view show-

ing the manner of anchoring the bladder to the cover;

Fig. 3 is a fragmentary view looking from the interior of the bladder toward the valve and cover seam;

Fig. 4 is a sectional view on the line 4-4 of Fig. 3; and

Fig. 5 is a sectional view on the line 5-5 of Fig. 4.

Referring to the drawing more in detail, it will be observed that the cover of the ball, which in the present instance is a football designated generally by reference character 6, is composed of a plurality of sections designated 7, 8, 9, and 11, respectively, which are connected together by having their adjacent edges inturned and secured together by stitching 12 to form the inwardly extending seams 13. One seam between two of the sections is left open for a portion of its length to provide a bladder insertion opening which, after the bladder is inserted, may be closed by the usual lacing 14 or other type of closure.

The anchorage for the bladder 15 is located directly opposite to the lacing 14, as will be apparent from Fig. 1, and at this point in the seam between the cover sections 7 and 8 an opening 16 is formed by spreading the seam holding stitches or by leaving a short length of the seam unstitched so that an opening of sufficient size to accommodate the inflation nipple 17 is provided.

The bladder is equipped with an interiorly disposed rubber inflation valve 18 of well known construction having a flange 19 which is securely attached to the bladder body by vulcanizing or otherwise, the valve body being formed to provide the outwardly extending nipple 17 through which the bladder is inflated. It will be observed that the central passage through the nipple terminates at its inner end in a slit 21 through the wall of the valve casing, which slit is closed to provide a hermetic seal by the internal pressure within the bladder, but may be opened to permit the entrance or escape of air by insertion of a hollow needle of suitable size, or other implement, into the central passage and through the slit into the interior of the bladder. When the bladder is assembled within the cover, the nipple 17 extends through the seam opening 16 substantially to the outer face of the cover, where it is accessible for inflation purposes as shown in Fig. 4.

For the purpose of anchoring the bladder to the cover and retaining the nipple in this position accessible from outside the cover, my invention contemplates the provision of an anchor adapted

to straddle and be secured to the seam inside the cover. This anchor comprises a disc-shaped body 22 of rubber or other flexible material adapted to abut against the inner face of the seam and a pair of flanges 23 and 24 disposed upon either side of the seam and adapted to engage the side faces of the seam. The central portion of the body 22 in conjunction with the flanges 23 and 24 provide a channel as will be apparent from Fig. 4, which is adapted to straddle and embrace that portion of the seam in proximity to the opening 16 therethrough. The anchor is securely attached to the seam by the stitches 12 or by an adhesive or staples or other suitable means of attachment and, in order to accommodate the curvature of the turned cover section edges around the opening 16, these flange walls are curved outwardly, as indicated by reference characters 25 and 26. The center of the anchor is provided with an opening 27 which is positioned in alignment with the opening 16 so that the nipple 17 may extend through the anchor into the seam opening 16.

For the purpose of detachably securing the bladder to the anchor so as to hold the nipple 17 in position in the seam opening, the bladder is provided with a disc 28 which is secured by vulcanizing or by suitable adhesive to the bladder around the nipple 17. This disc is provided on its outer face with an adhesive, as indicated by reference character 29, Fig. 2, so that when moistened and applied to the exposed face of the anchor disc 22 as the nipple 17 is introduced through the opening 27, this disc will become firmly attached to the anchor to thereby retain the nipple in the seam opening and to fasten the bladder to the cover. Instead of using an adhesive faced disc which can be applied by simply moistening its face, a cement or other adhesive which will be applied at the time of positioning the bladder within the cover may be utilized, if preferred. In any event, the character of the adhesive is such that it will retain the nipple in position in its opening, but, when removal of the bladder is necessary for renewal or repairs, it may be pulled away from the anchor, thus releasing the bladder without injury to the bladder, the cover, or the anchor.

From the foregoing it will be appreciated that I have provided a novel means for anchoring the bladder to the cover which obviates the necessity of puncturing the leather or its fabric lining and which enables the anchor to be located exactly opposite the lacing to afford a better balancing of the ball. Furthermore, the hard spot, which has heretofore been an objectionable feature in balls of this character, is eliminated since the seam through which the nipple projects is in no material respects different in character or resiliency from the seams at any other portion of the ball.

While the bladder has been illustrated in Fig. 4 in the position which the parts assume when the assembly is made before inflation, it will be understood that when the bladder is inflated it, together with the disc of the anchor, will flex outwardly until the bladder itself and the marginal portion of the anchor disc 22 are in contact with the inner fabric lining 31 of the cover.

While I have shown and described a preferred embodiment of my invention, it will be manifest that the structural details illustrated and described are capable of considerable modification without departing from the essence of the invention as defined in the following claims.

I claim:

1. An inflatable ball comprising a sectional cover having inwardly projecting seams, an anchor position on and secured to one of said seams, said anchor being shaped to provide a channel straddling said seam and a flexible disc projecting laterally from the inner edge of said seam, substantially parallel with and spaced from the cover, said anchor and seam being provided with aligned openings, a bladder positioned within the cover and provided with an inflation valve and a nipple extending slidably into said aligned openings, a disc secured to said bladder around said nipple, and means for detachably securing said disc to said anchor to retain said nipple in said openings in accessible position for inflation purposes, said anchor disc being substantially conformable under bladder pressure to the contour of said cover.

2. An inflatable ball comprising a cover composed of sections connected by inwardly projecting seams and having a valve nipple receiving opening located in one of said seams between adjoining sections, a bladder provided with an internal valve and an outwardly projecting smooth nipple of substantially the length of and adapted to be positioned in said seam opening, an anchor comprising a pair of relatively thin parallel walls spaced apart to accommodate said seam between them and a flexible disc adjoining said walls and extending laterally therefrom in spaced relation to the cover, means for fastening the anchor to the cover, and means for fastening the bladder to the anchor, one of said fastening means including a readily rupturable adhesive affording provision for detachment of said bladder from said cover, said anchor disc being sufficiently flexible to substantially conform to the contour of the cover and the seam under pressure of the bladder when inflated.

3. An inflatable ball comprising a sectional cover having inwardly projecting seams, an anchor shaped to straddle one of said seams and having a disc-shaped flexible base projecting laterally from the inner edge of said seam in spaced relation to the cover, said anchor and seam being provided with aligned openings for the reception of the valve nipple, a bladder within the cover provided with an inflation valve having an outwardly extending nipple slidably positioned in said openings through the anchor and seam, means for securing said bladder to said disc-shaped anchor base around said anchor opening, and means for securing said anchor to said cover, one of said securing means including a rupturable adhesive permitting detachment of the bladder from the cover, said anchor base being substantially conformable to the angle between the seam and the adjacent cover section under pressure of the inflated bladder.

DAVID LEVINSON.