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T. H. FEWLASS

INFLATABLE BLADDER

Filed Feb. 10, 1926

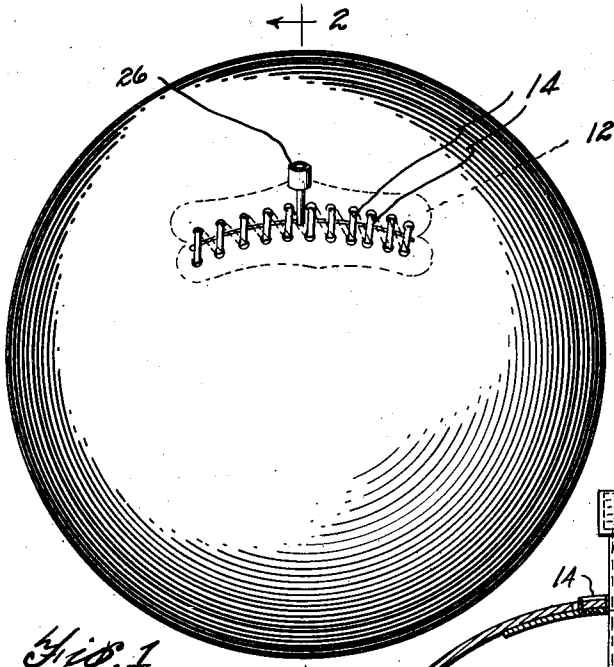


Fig. 1

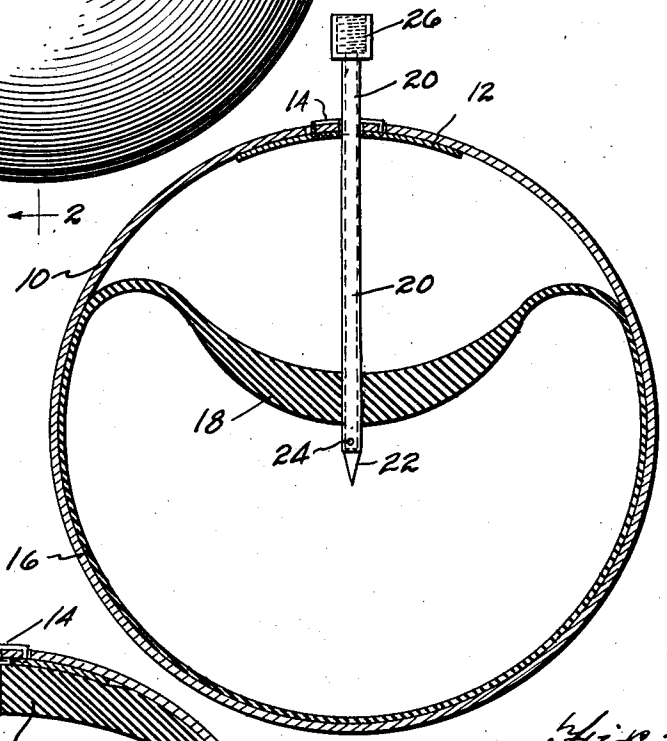


Fig. 2

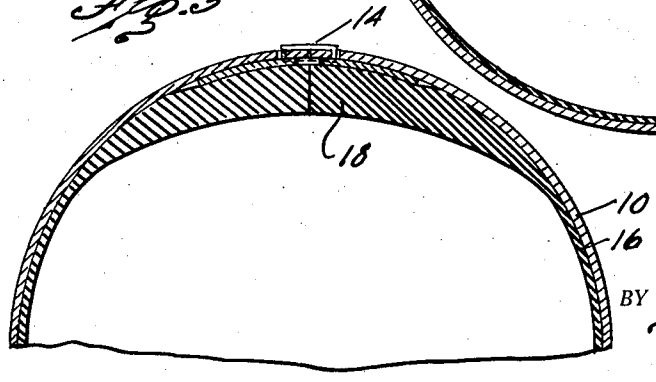


Fig. 3

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UNITED STATES PATENT OFFICE.

THOMAS H. FEWLASS, OF HIGHLAND PARK, MICHIGAN.

INFLATABLE BLADDER.

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My invention relates to improvements in inflatable balls or bladders as they are commonly termed.

Air bladders of the type used in foot balls, basket balls, volley balls and water balls are normally provided, as constructed at the present time, with a tubular neck which receives the discharge nozzle of an air pump. Following the inflation of the bladder this tubular neck is fastened up being tied or in a suitable manner, and the outer casing within which the bladder is contained is laced up. This is a slow, painstaking task. It is difficult to lace the casing and place the tied neck of the bladder in position thereunder once the bladder is fully distended. There is a tendency to leak at the closure of the bladder and also deterioration of the material at such point. Valves have been provided for this purpose, but this adds to the expense and provides movable parts which are subject to wear and get out of order and does not eliminate the difficulty of lacing the casing to close the opening therethrough following inflation of the bladder.

I have used the word "bladder" and "inflatable ball" synonymously throughout the application and I have shown my invention in connection with an article such as a basket ball, in which the bladder is disposed within a laced casing. However, the invention is not limited to an article of this specific class. The bladder itself might be provided with a wearing surface rather than being fitted with an exterior casing.

My invention consists in the provision of a bladder of this character having a wall portion so formed that the discharge nozzle of the inflating mechanism may be inserted therethrough to inflate the bladder and upon the removal of this discharge nozzle following the inflation of the bladder this wall portion is distended to seal the opening occupied by the discharge nozzle during the inflation.

More particularly the invention resides in the provision of a bladder having a portion of its wall normally interiorly cupped and of greater thickness than the remaining wall area and through which thickened cupped wall portion the discharge nozzle of the inflating mechanism is projected to inflate the bladder and following which inflation and upon the removal of the discharge nozzle the cupped portion is reversed, that is, it becomes convex outwardly to suit the particular shape of the bladder and the aperture through which the discharge nozzle of the inflating mechanism extended is sealed by the inflating fluid tensioning the wall structure to seal such opening.

In the drawing,—

Figure 1 is a side elevation of a ball illustrating my invention, with the inflating device in position.

Fig. 2 is a cross-sectional view taken on line 2—2, Fig. 1.

Fig. 3 is a fragmentary cross-sectional view through the ball illustrated in Fig. 2, with the inflating device removed.

In the drawing the invention is illustrated in a basket ball of the conventional design. This is provided with the usual casing 10 having an opening at 12 normally closed by the lacing 14. There is an interior bladder 16. This bladder is so formed as to have an interiorly cupped wall portion 18 of substantially greater thickness than the remaining wall portion of the bladder, as shown in Fig. 2.

I have here shown the bladder as formed of puncturable material such as rubber, and in the inflation of the same there is provided a discharge nozzle 20 which is pointed at the end 22 and provided with an outlet 24. This nozzle has an enlarged interiorly threaded opposite end 26 which is capable of being threaded upon the outer end of the conventional air pump valve connection.

This discharge nozzle 20 can be readily pushed through the thickened wall portion of the bladder and the bladder inflated in the usual manner. Before the bladder is inflated the casing can be laced up, which is easily accomplished with the bladder in the deflated condition, and upon inflation of the bladder it is distended to fill the casing and upon removal of the nozzle the thickened wall portion seals the opening occupied by the nozzle during the process of inflation.

This operation may be repeated successively for the normal life of the bladder without damaging deterioration of that portion of the wall structure through which the nozzle is projected.

What I claim is:

1. An article of the class described, comprising an outer casing, an inner bladder, said casing provided with an opening through its wall, and means for closing

said opening, said bladder provided opposite the opening through the wall of the casing with a normally inwardly cupped puncturable wall portion of greater thickness than the remaining wall portion.

2. A ball structure comprising, a casing having an opening through its wall, means for closing said opening, a bladder within the casing removable through said wall opening therein, said bladder having a normally inwardly cupped wall area of greater thickness than its remaining wall area disposed opposite the said opening through the casing wall which cupped wall area is puncturable to receive therethrough the nozzle of an inflating device.

In testimony whereof, I sign this specification.

THOMAS H. FEWLASS.