

H. R. WEMPLE.

BALL.

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1,023,904.

Patented Apr. 23, 1912.

Fig. 1.

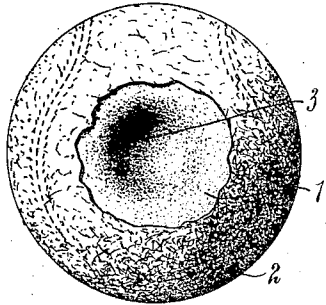


Fig. 2.

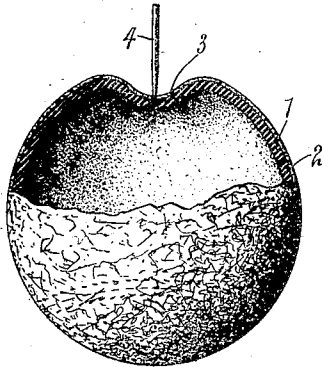
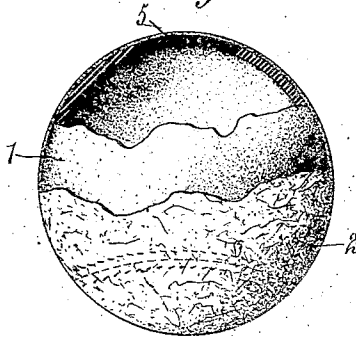


Fig. 3.



Witnesses:

Harry J. Glusker

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UNITED STATES PATENT OFFICE.

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BALL.

1,023,904.

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To all whom it may concern:

Be it known that I, HORACE R. WEMPLE, a citizen of the United States, and resident of Elizabeth, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Balls, of which the following is a specification.

My invention relates to balls and the method of making them and more particularly to elastic inflated balls, for example, a ball such as is commonly known as a tennis ball.

The object is to provide an inflated elastic ball, the wall of which will be self-sealing after the inflating needle is removed, without requiring the use of a rubber plug or teat on the interior of the wall to seal the opening.

A practical embodiment of the invention is represented in the accompanying drawings in which,

Figure 1 is a plan view of the ball blank, the cover being broken away to show a depression in the elastic wall of the blank. Fig. 2 is a view in elevation, partly in section, showing the inflating needle in position ready for inflating the ball, and Fig. 3 is a view in elevation, partly in section, showing the ball as it appears when inflated.

The elastic wall or body of the ball is denoted by 1, and may be made of a suitable rubber compound as is common. The cover or jacket which may be of soft cloth, is denoted by 2.

The elastic body or wall of the ball is normally molded in spherical form save only a depression 3, the extent of the wall of the depression 3 being preferably somewhat greater than the extent of the fair surface of the sphere bounded by the marginal line of the said depression; that is to say, if the wall of the sphere were to be projected to form a fair surface of the sphere instead of being depressed, that part of the surface of the sphere so projected instead of depressed, would be somewhat less in area than the area of the depressed wall. The purpose of this construction is to cause that portion of the wall which forms the depression to become compressed to a greater or lesser degree when it is forced from its normal molded position shown in Fig. 2, into its inflated position shown in Fig. 3.

When the wall has been molded as shown in Fig. 2, it is covered with a soft cloth jacket or cover 2, the latter being preferably

cemented to the outer surface of the wall 1, and the ball blank is then inflated by inserting an inflating needle 4 through the wall which forms the depression 3, causing that portion of the wall to assume a position in the fair surface of the sphere, as shown in Fig. 3. The needle 4 may then be withdrawn from its inflating position and the opening or puncture made by the needle will be permanently sealed by the inward pressure of the surrounding condensed elastic material 5, see Fig. 3, which originally formed the wall of the depression 3. This self-sealing feature does away with the necessity of introducing an additional plug or teat of sealing material on the inner wall of the ball which has heretofore rendered the ball heavier on one side than the other and caused it to wobble during its flight.

While I prefer to make the wall of the depression somewhat greater in extent than the fair surface of the sphere corresponding thereto, as above explained, the normal depression will still seal the puncture when it is inflated and brought into the fair surface of the sphere even if it be substantially the same in extent as the corresponding fair surface of the sphere because of the contraction of the inner portion of the depressed portion of the wall when such portion is forced outwardly into the fair surface of the sphere. Furthermore, a ball which has reached the condition known as "dead," may be renewed by heating it with a portion of its wall depressed to an extent sufficient to give the depressed portion a normal "set" and then inflating it and forcing the said depressed portion outwardly into the fair surface of the sphere as hereinabove explained.

What I claim is:

1. A method of making an inflatable ball consisting in forming a wall of suitable elastic material, the wall having a general spherical form with a portion thereof depressed, inserting an inflating needle through the depressed portion of the wall and introducing an inflating fluid to force the depressed portion of the wall into the fair surface of the sphere.

2. The method of making an inflatable ball consisting in forming a wall of suitable elastic material, the wall having a general spherical form with a portion thereof depressed and of greater superficial area than the fair surface of the said spherical form,

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inserting an inflating needle through the depressed portion of the wall and introducing an inflating fluid sufficient to force the depressed portion of the wall into the fair
5 surface of the sphere thereby sealing the hole formed by the inflating needle by the compression of the portion of the wall immediately surrounding said perforation.

10 3. An inflatable ball provided with a wall of elastic material, a portion of the elastic wall surrounding the point where an inflating needle was inserted to inflate the ball being compressed and held in a compressed

condition by the outward pressure of the inflating fluid and the resistance of the wall 15 of the sphere surrounding said compressed portion.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this thirtieth day 20 of June 1910.

HORACE R. WEMPLE.

Witnesses:

F. GEORGE BARRY,
HENRY C. THIEME.