March 18, 1930. J. R. GAMMETER 1,751,275

PACKAGED PLAYING BALL

Filed April 19, 1928

Fig. 1.

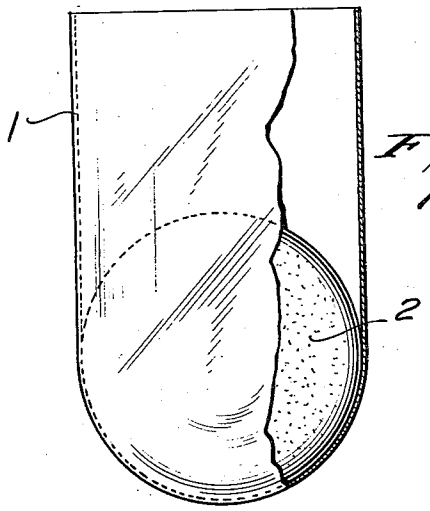


Fig. 2.

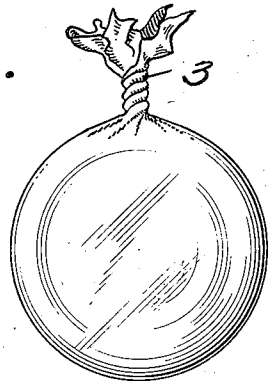


Fig. 3.

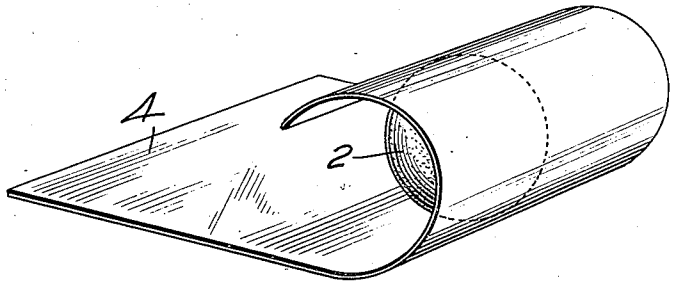


Fig. 5.

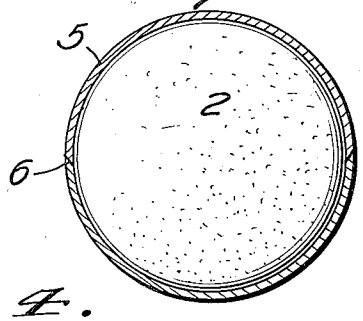


Fig. 6.

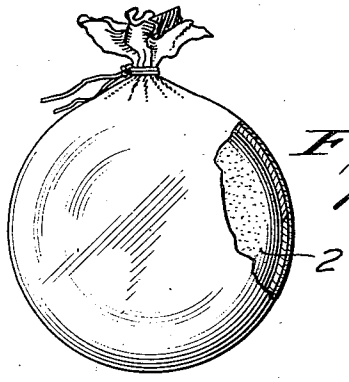
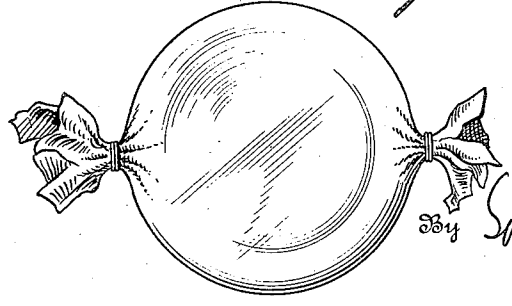


Fig. 4.



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UNITED STATES PATENT OFFICE

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PACKAGED PLAYING BALL

Application filed April 19, 1928. Serial No. 271,313.

This invention relates to the preservation of the resiliency or other desirable characteristics of play balls and especially inflated balls such as are used for tennis, for example.

Great care is taken in the manufacture of such balls to adhere to certain standards for the sake of uniformity of resilience of the balls in service, but such uniformity is affected very unfavorably by unequal periods of delay between the manufacture and the use of the balls and long storage of the balls results in great loss of resilience, when no precaution is taken against such loss, because of the fatigue of the rubber wall of the ball, held under strain by the enclosed gas, and also to some extent because of slow leakage or diffusion of the gas through the wall of the ball.

These disadvantages are best avoided by providing a preserving-jacket ball assembly in which the inflated ball is mechanically held to reduced size by a close-fitting jacket to avoid long-continued strains in the wall of the ball, the jacket being shrunk upon the ball to reduce the size of the latter or applied to the ball while the ball is held to reduced size.

The chief objects of the present invention are to avoid the necessity of a seaming operation in closing a shrinkable jacket upon the ball, to avoid the necessity of a preliminary shaping of accurately formed covering members, and thus to provide for the convenient use of shrinkable or other covering material in sheet form.

In attaining these objects I produce, in the practice of the invention in its preferred form, a completed, elastic, inflated playing ball held at a reduced size by a flexible jacket applied thereto. The invention contemplates reducing the size of the ball by applying a jacket of flexible material capable of entirely covering the ball and of a shrinkable nature so that in its shrinking, the ball will be reduced in size. As an example of this system of reduction, viscose is mentioned, which is desirable in that when permitted to dry from a green condition, it not only shrinks, but because when exposed to the air, it sets into an air-proof jacket.

At any event, the invention contemplates placing the ball in a flexible jacket or sheet sufficient to cover the same, then closing the end or ends of the jacket, as by gathering or clamping the material or by gathering and twisting it, and then, allowing the jacket to shrink, a thin cap of paper, cardboard, celluloid or the like being placed over the ball to prevent the folds of the jacket from being impressed upon the ball exterior, and the invention comprises the novel packaged article formed by the above procedure.

In the drawings:

Figure 1 is a front view of a capsule shaped jacket with a ball dropped inside.

Fig. 2 is a similar view of the reduced ball held in the jacket by twisting the end thereof.

Fig. 3 is a perspective of a ball being rolled in a flexible sheet preparatory to securing the ends thereof.

Fig. 4 is a front view of a ball held in the shell of Fig. 3.

Fig. 5 is a front view of a ball with protecting caps applied thereto.

Fig. 6 is a view of a modified form of end securing means.

Referring now to the drawings, there is shown at 1 a capsule shaped jacket of shrinkable material such as viscose having a rounded bottom to receive the ball 2. This jacket need be only of such a size as to snugly accommodate the ball, as any moderate oversize will be taken up in shrinkage, but preferably it is of such size as to be closed upon the ball in contact therewith substantially throughout the surface of the ball in order that it may compress the ball by mechanical contact, rather than by the force of air compressed between the two, and thus be free of blisters such as would render the jacket easily broken. The top of this capsule jacket 1 is then twisted as at 3 in Fig. 2, or tied as in Fig. 6, and then the viscose allowed to shrink and set. This action has been shown to compress the ball and reduce it in size to the point where its elastic component is either under reduced or no tension, which is the desired condition. This shrunk jacket is air-proof and will retain the ball in this condition for long periods of time. When it is desired to

use the ball in play, the jacket may be readily stripped from it, whereupon the ball springs out to a size within the official limits.

As a modified procedure a flat sheet may be used and the ball 2 rolled in it. This sheet is indicated at 4 in Fig. 3. If the sheet is of viscose or other shrinkable material, upon twisting the ends as in Fig. 4 and tying or clipping them, the sheet will shrink as before with consequent reduction in size of the ball 2.

In the case of tennis balls, the wrinkling or folding of the jacket of Figs. 2, 4 and 6 by twisting the ends may cause an undesirable marking on the exterior thereof. This may be avoided by surrounding the ball at the twisted end of the jacket with a substantially rigid cap of some kind such as metal, paper, celluloid, or the like, such as the cap shown at 5, the cap preferably being beveled at its edge, as shown at 6, to avoid indentation of the ball.

In order to avoid brittleness in a jacket of viscose, the viscose in sheet form may be soaked, preferably for about an hour in a five per cent solution of glycerine in water, so that it will be relatively pliable when dry.

Modifications are possible within the scope of my invention as defined in the appended claims.

What is claimed is:

1. In combination, an inflated playing ball, the elastic components of which are at a reduced tension, a substantially rigid cap on the ball and a one-piece jacket enclosing the ball and cap and having a portion twisted upon itself over the cap, said jacket being shrunk on the ball and relieving the wall of pressure of the contained fluid.

2. In combination, an inflated playing ball, the elastic components of which are under reduced tension, a substantially rigid cap on the ball, a one-piece jacket having a substantially hemispherical portion fitting the ball and a gathered end, the jacket being shrunk upon cap and ball, and the cap underlying the gathered end.

In testimony whereof I affix my signature.

JOHN R. GAMMETER.