United States Patent [19]

Henry

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[54] **TENNIS BALL**

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[52] **U.S. Cl.** ..... **273/61 R**; 273/61 B

[51] **Int. Cl.**[2] **A63B 39/06**; A63B 41/10

[58] **Field of Search** 273/61, 58

[56] **References Cited**

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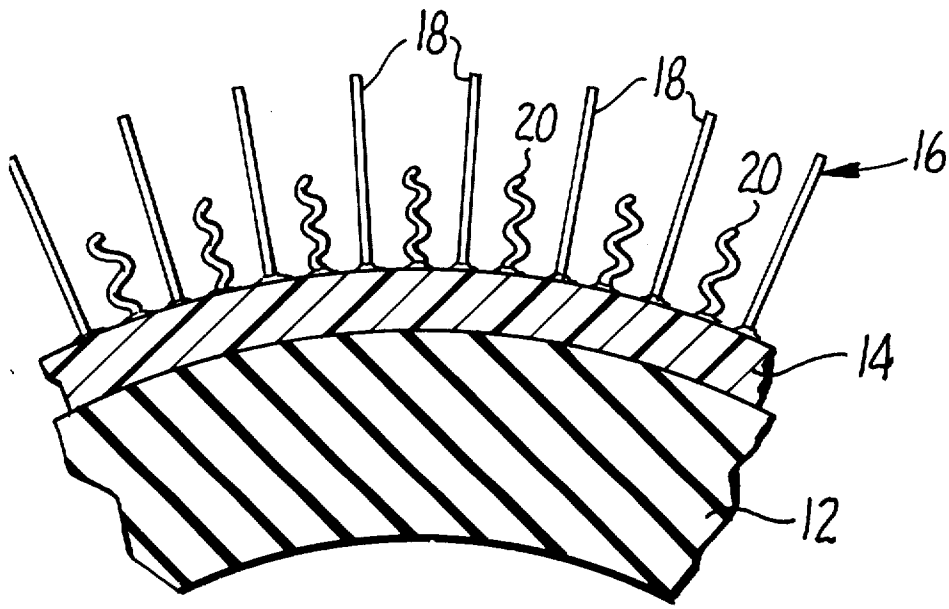
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[57] **ABSTRACT**

This new tennis ball is provided with a surface comprised of flocked nylon fibers disposed normal to the ball and in spaced apart relationship throughout their length. This surface may be attached directly to the conventional hollow rubber core or it may be attached to a substrate of rubber or plastic which is then cut into conventional figure eight shapes for attachment to the conventional hollow rubber cores.

1 Claim, 3 Drawing Figures



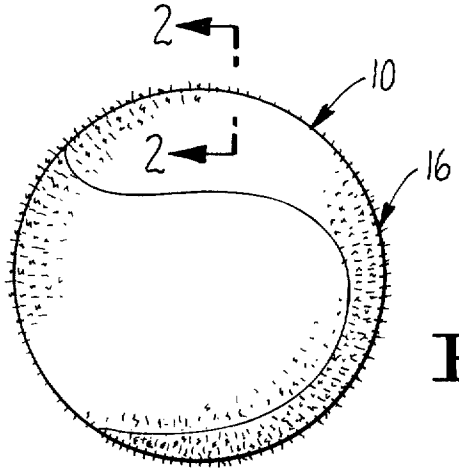


FIG. 1.

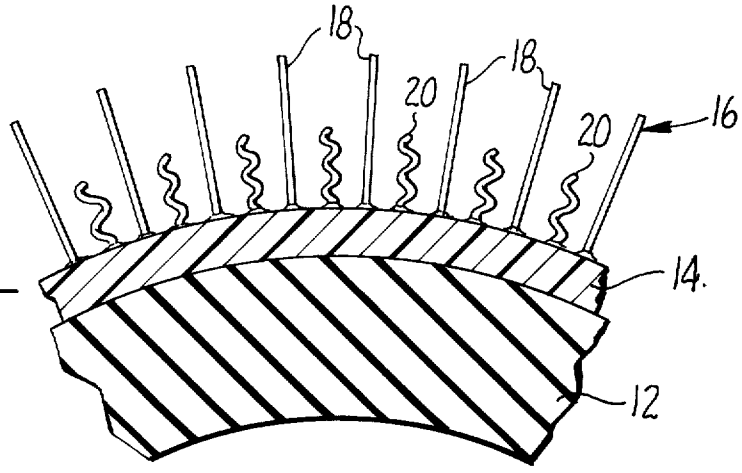


FIG. 2.

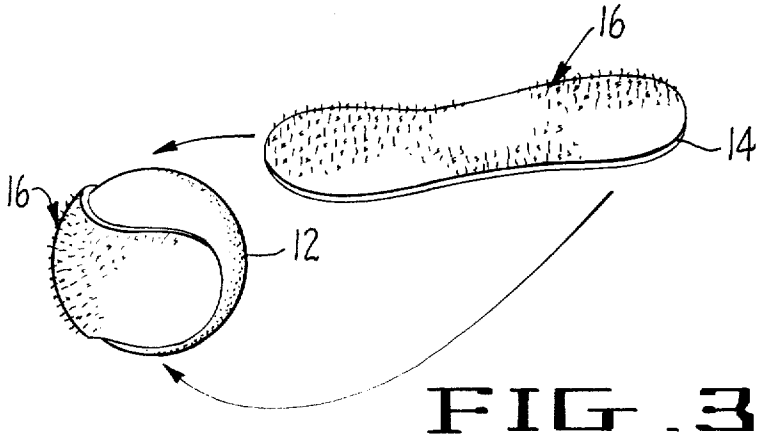


FIG. 3.

TENNIS BALL

Among the objects and advantages of the invention are the following. There is provided a tennis ball which is essentially non-varying as to weight because of the nonhydroscopic nature of the surface as compared to the hydroscopic wool surface presently employed. The subject ball tends to have a constant contour whereas with the conventional balls the wool surface felts easily and unevenly. Also, as compared to the conventional ball the one of the present invention is less subject to soiling and gathering dirt and is more resistant to wear and therefore is less prone to loss in diameter as a result of extensive play. The subject flocked nylon coated ball in comparison of the present wool covered one tends to be somewhat less restrained in flight by air drag and somewhat less slowed by bounce due to frictional engagement. Also, the subject ball with its flocked nylon coating is more readily cleanable and is also somewhat better balanced due to evenness in length and weight of the nylon fibers in comparison with unevenness in length and weight of the wool fibers of the conventional tennis balls.

A preferred embodiment of the tennis ball of the invention is shown in the drawing, in which:

FIG. **1** is a view in elevation of the ball;

FIG. **2** is an enlarged view such as one taken on lines 2--2 of FIG. **1**; and

FIG. **3** is a view in perspective of a partially assembled ball.

Referring to the drawing wherein there is shown as preferred embodiment of the tennis ball of the subject invention, the ball **10** comprises a rubber ball body or core **12**, a substrate **14** of rubber or plastic secured to the core **12**, and a flocked fiber surface indicated generally at **16** and comprising nylon fibers **18** and crimped textile fibers **20**. The fibers **18** and **20** are positioned relative to substrate **14** by well-known electrostatic flocking techniques and are adhesively secured to the outer surface of substrate **14**, as by epoxy adhesives. The crimped fibers **20**, as for example the fiber product made in Sweden and marketed under the trademark ELASTON, are approximately onehalf as long as the nylon fibers **16**. When the ball is in play, the fibers **18** and **20** will inter-engage each other and "felt." The fibers **18** and **20** are attached by the described flocking technique at a **90°** angle to the outer surface of substrate **14** and these fibers are not attached to each other above the outer surface of substrate **14**.

The flocked nylon fibers should be of a sufficiently high denier count, e.g. **60**, to provide a dense, velvety ball cover. By "nylon" fibers is meant nylon or other suitable or equivalent fibers.

A satisfactory material for a plastic version of the substrate **14** is polyvinyl chloride.

As indicated in FIG. **3**, the flocked surface **16** is applied to the substrate **14** while the latter is in the flat, and thereafter the figure eight pieces are cut out and applied and secured to the rubber ball core, as shown. The two figure eight pieces may be of different colors, e.g. white and yellow, white and orange, black and white, and so forth, thereby making the flight of the ball easier for the players to follow.

The described ball has the advantages which are described above in the initial part of this application.

Instead of having the substrate **14**, the substrate can be eliminated and the fibers, as described, can be attached by electrostatic flocking directly to the rubber ball core **12**. The resulting ball would then have no cover or substrate for the rubber ball core and it would have no seams.

What is claimed is:

1. A tennis ball comprising a resilient core and a coating connected to the core, said coating comprising nylon fibers disposed normal to said core and in spaced apart relation to each other throughout their length.

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