PRESSURIZED STORAGE CONTAINER

BACKGROUND OF THE INVENTION

Tennis balls are manufactured to close specifications in order to have a uniform product for use anywhere in the world. One of these specifications is that the ball must have a bounce between 53 inches and 58 inches when dropped on a concrete surface from 100 inches in height. In order to meet this specification and other specifications, tennis balls are made with a relatively thin wall of elastomeric material, covered on the outside with a felt fuzz, and filled with gas (such as air) under pressure. The balls are usually packaged in groups of three in a container having sufficient pressure to substantially equalize the pressure in the balls. This method of packaging maintains the physical characteristic of the balls until the container is opened. At this time the fresh balls begin to age in a primary way, that being the gradual escape of internal gas through the thin wall of the ball at all times and also the acceleration of this escape when the ball is hit with a racket.

The importance of having tennis balls with uniform physical characteristics must not be minimized. Those who are serious tennis players, either the relatively few competitors in tournaments or the many more competitors in recreational play, appreciate the feel of striking a good ball with a racket. It is well known that old defective balls will not go where they are hit and that in trying to compensate for the deficiencies in an old ball, a player will often ruin a good stroke that has been developed with much practice. Some of the best players would rather not play at all rather than play with defective balls.

Once the tennis ball pressurized container which is in common use has been opened, the balls which are not being used and are located in that container begin their deterioration. Also, once a ball has been used, it would be desirable to relocate the used ball in a pressurized atmosphere in order to decrease the ball's deterioration.

In the past there have been several types of containers which have been proposed for such use. However, such previously known containers are complex in construction and therefore costly to manufacture and also require to be connected with a source of pressurized gas once the container is reclosed. As a result, such containers have not achieved any significant commercial success and as of the present day, no repressurizing type of container is known to be employed.

The pressurization which is required in the containers in which the balls are sold is approximately 13 pounds per square inch. This pressure is not so significantly high as to require a separate pressurizing apparatus to be connected with the container to repressurize the container. It is one object of this invention to employ the use of a pressurizing means incorporated with the container which can be readily applied manually.

SUMMARY OF THE INVENTION

The container of this invention provides for a body portion and a cap portion. Once the cap portion is initially inserted upon the body portion, an air-tight seal therebetween is established, closing off the interior of the body portion of the container to the ambient. Means are provided between the cap and the body portion such as a threading arrangement which permits the cap to be tightened upon the body. As a result, the volume of the space within the body portion of the container is decreased. This decreasing of the volume causes a compression of the gas, which is normally air, within the body. The arrangement between the cap and the body is such so that with the cap completely tightened upon the body, the pressurization of the gas within the body will be approximately 13 pounds per square inch. Therefore, the tennis balls which are to be located within the container will again be placed within a pressurized environment.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is an isometric view of the container of this invention showing the cap disassociated from the body;

FIG. 2 is a side view of the container of this invention showing the cap completely closed about the body;

FIG. 3 is a cross-sectional view of the container of this invention taken along line 3—3 of FIG. 2; and

FIG. 4 is a cross-sectional view of a modified form of the container of this invention similar to that of FIG. 3.

DETAILED DESCRIPTION OF THE SHOWN EMBODIMENT

Referring particularly to the drawing, there is shown in FIG. 1 the container **10** of this invention which is basically composed of a cap **12** and a body **14.** The body **14** includes an interior chamber **16** which is adapted to receive a plurality (normally three in number) of tennis balls **18.** However, it is to be understood that although this invention is described in preference to the use of tennis balls, it is considered that the apparatus of this invention may be employed for other types of game balls or to pressurize other types of contents.

The cap **12** also includes an interior chamber **20.** Mounted within the cap **12** adjacent the closed end of the chamber **20** is a seal **22.** The seal **22** would normally comprise a resilient non-metallic material such as rubber, plastic or the like. The purpose of the seal **22** is to insure that an air-tight connection is established between the cap **12** and the body **14** when the cap **12** is fully inserted upon the body **14.**

Secured to the cap **12** within the chamber **20** is an internal thread **24.** Fixedly mounted upon the body **14** is a thread **26.** Also mounted a groove within the body **14** adjacent the opened end of the body **14** is an O-ring seal **28.** The O-ring seal **28** is deemed to be a conventional type of seal and will also be formed of a resilient non-metallic material such as rubber or plastic.

The operation of the container **10** of this invention is as follows: It is presumed that the container has been received by a person desiring to use one or more of the balls **18** and the container has yet to be opened. Initially the container is pressurized to approximately thirteen pounds per square inch. The person then grasps both the body **14** and the cap **12** and causes a turning movement to occur therebetween by the application of manual force. This causes the thread **24** to be moved along the thread **26** until the cap **12** can be disassociated from the body **14.** It is to be noted that the depressurization of the chamber **16** is accomplished gradually and no ejecting of the cap **12** is caused. Once the cap **12** has been removed from the body **14,** the ball **18** which is stored within the chamber **20** can be readily removed.