A novelty ball assembly that produces noise when squeezed. The ball assembly includes a resilient shell that defines an internal chamber. The resilient shell has a structure that is self-expanding into a fully expanded condition. Consequently, when the resilient shell of the ball assembly is squeezed, it returns to its fully expanded shape on its own accord. A first vent port is present disposed in the resilient shell. When the resilient shell is squeezed, air from the internal chamber is displaced through the first vent port. A noise maker is disposed within the resilient shell, proximate the first vent port so that air displaced through the first vent port passes through the noise maker. As air passes through the noise maker, the noise maker produces an audible sound.
SPORTS BALL DEVICE WITH INTERNAL NOISE MAKER

RELATED APPLICATIONS

[0001] This application claims the priority of Provisional Patent Application No. 60/582,978, entitled Sports Ball Device With Internal Noise Maker, which was filed Jun. 28, 2004.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to noise makers, such as whoopee cushions, that make noise when the noise maker is compressed. The present invention also relates to compressible sports balls, such as foam-filled footballs, soccer balls and basketballs.

[0004] 2. Prior Art Description

[0005] There exist many sports, such as football, soccer, and basketball, that use some form of a ball. However, regulation balls tend to be made of leather and are firmly inflated. As such, the sports balls are hard and are difficult to handle by children. Because regulation sports balls are hard, the balls can cause harm to a child who lacks the muscle strength and coordination to catch or kick the ball properly.

[0006] It is for these reasons that “toy” sports balls are manufactured. Toy sports balls have the appearance of regulation sports balls, but are made from softer materials and often in smaller sizes. The prior art is replete with toy sports balls. In this art record, many secondary features have been added to sports balls that are intended to increase the play value of the toy sports ball and make that toy sports ball more appealing to children. For instance, lights have been added to many toy sports balls that enable the toy sports balls to internally illuminate. Furthermore, noise makers, in the form of whoopees have been added to toy sports balls, such as footballs, that are commonly thrown. The whoopees produce sound as air passes the toy sports ball when it is in flight. However, such noise makers do require that the toy sports ball be thrown before noise will be created.

[0007] The one feature that typically differentiates a toy sports ball from a regulation sports ball is its degree of compressibility. Toy sports balls are typically made to be much softer, and thus more compressible, than regulation sports balls. In the prior art record of noise makers, there exist noise makers that utilize an object’s compression to move air and create noise. A common example of such a noise maker is a whoopee cushion. Variations of the whoopee cushion are exemplified by U.S. Pat. No. 6,331,131 to Selevan, entitled Self Inflating Noise Maker.

[0008] Although, compressible noise makers do exist and compressible balls do exist, no prior art instances have been discovered of combining a compressible noise maker into a compressible ball to create a new novelty ball. The present invention presents such a novelty ball, as described below.

SUMMARY OF THE INVENTION

[0009] The present invention is a novelty ball assembly that produces noise when squeezed. The ball assembly includes a resilient shell that defines an internal chamber. The resilient shell has a structure that is self-expanding into a fully expanded condition. Consequently, when the resilient shell of the ball assembly is squeezed, it returns to its fully expanded shape on its own accord.

[0010] A first vent port is present disposed in the resilient shell. When the resilient shell is squeezed, air from the internal chamber is displaced through the first vent port. A noise maker is disposed within the resilient shell, proximate the first vent port so that air displaced through the first vent port passes through the noise maker. As air passes through the noise maker, the noise maker produces an audible sound. In the preferred embodiment, the audible sound is that of a whoopee cushion.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] For a better understanding of the present invention, reference is made to the following description of exemplary embodiments thereof, considered in conjunction with the accompanying drawings, in which:

[0012] FIG. 1 is a cross-sectional view of an exemplary embodiment of a novelty ball; and

[0013] FIG. 2 is a cross-sectional view of an alternate embodiment of a novelty ball.

DETAILED DESCRIPTION OF THE DRAWINGS

[0014] Although the present invention novelty ball can be configured as any sports ball, such as a soccer ball or baseball, the shown embodiment is shaped as a football. Such a shape selection is merely exemplary and should not be considered a limitation of the present invention to balls of different shapes.

[0015] Referring to FIG. 1, a ball assembly 10 is shown. The ball assembly 10 includes a hollow ball shell 12. The ball shell 12 can be spherical and can be shaped like a soccer ball or a baseball. However, in the shown exemplary embodiment, the ball shell 12 has the elongated external shape of a football.

[0016] The ball shell 12 defines an internal chamber 14. The ball shell 12 is made of air impermeable material, such as plastic or a closed cell plastic foam. The ball shell 12 is compressible. That is, the ball shell 12 is flexible enough so that it can be squeezed to a point where the internal chamber 14 partially collapses inwardly. The ball shell 12 is also manufactured to be resilient in shape. In this manner, once the ball shell 12 is compressed, it will automatically return to its original fully expanded shape as soon as the compression forces are removed.

[0017] Two vent ports are disposed in the ball shell 12 that allow air to flow into and out of the internal chamber 14 as the ball shell 12 is compressed and expands back into its original shape. In the shown embodiment, there is an inbound vent port 18. A one-way valve 20 is positioned in the inbound vent port 18 that only enables air to flow into the internal chamber 14 from the exterior of the ball shell 12. The second vent port is an outbound vent port 22. The outbound vent port 22 enables air from the internal chamber 14 to exit the ball shell 12 as the ball shell 12 is compressed.

[0018] A noise maker 30 is disposed in the path of the outbound vent port 22. Consequently, any air passing out of the internal chamber 14 of the ball shell 12 is forced to pass
through the noise maker 30. The flow of air through the noise maker 30 is used to power the noise maker 30 and create the desired noise.

In the embodiment of FIG. 1, the noise maker 30 contains a segment of a collapsed tube 32. As air passes through the tube 32, the tube 32 expands and vibrates. This produces the same sound as does a traditional whoopee cushion. It will therefore be understood, that when the ball shell 12 is compressed, air from within the internal chamber 14 will pass through the noise maker 30 and produce a whoopee cushion noise. After the compression forces are removed from the ball shell 12, the ball shell 12 returns to its normal shape as air returns to the internal chamber 14 through the inbound vent port 18.

Referring to FIG. 2, an alternate embodiment of the present invention novelty ball 40 is shown. In this embodiment, a round ball shell 42 is provided. The round ball shell 42 defines an internal chamber 44. The internal chamber 44 is accessed by an inbound vent port 46 and an outbound vent port 48. The inbound vent port 46 is smaller than the outbound vent port 48. Thus, when the ball shell 42 is compressed, air will travel out through the larger outbound vent port 48, since that is the path of least resistance.

As the ball shell 42 is compressed, air exits the outbound vent port 48. A noise maker 50 is provided in the path of the outbound vent port 48. The noise maker 50 is a reed noise maker that contains an internal reed 52 that vibrates and creates noise as air passes the reed 52 in the noise maker 50. When the compression force is released, air flows back into the ball shell 42 through the inbound vent port 46.

It will be understood that the embodiments of the present invention novelty ball that are illustrated and described are merely exemplary and that a person skilled in the art can make many variations to those embodiments using functionally equivalent components. For example, there are many types of noise makers that can be used as part of the present invention. Any noise makers, such as whistles and kazoos, that are powered by the flow of air, can be adapted for use by the present invention. All such modifications, variations and alternate embodiments are intended to be included within the scope of the present invention.

1. A novelty ball assembly, comprising:
   - A resilient shell that defines an internal chamber, wherein said shell is self expanding into a fully expanded condition where said internal chamber is at a maximum volume;
   - A first vent port disposed in said shell, wherein air from said internal chamber is displaced through said first vent port when said shell is compressed from said fully expanded condition; and
   - A noise maker disposed within said shell, proximate said first vent port, wherein air displaced through said first vent port passes through said noise maker, thereby causing said noise maker to produce audible sound.

2. The assembly according to claim 1, further including a second vent port leading into said internal chamber of said shell.

3. The assembly according to claim 2, further including a one way valve disposed within said second vent port that enables air to only enter into said internal chamber through said second vent port.

4. The assembly according to claim 1, wherein said shell has the external shape of a football.

5. The assembly according to claim 1, wherein said shell has the external shape of a sports ball, selected from a group consisting of soccer balls, footballs, and baseballs.

6. The assembly according to claim 1, wherein said noise maker is a collapsed tube that vibrate in a whoopee cushion fashion as air passes through said collapsed tube.

7. The assembly according to claim 1, wherein said noise maker is includes a reed that vibrates and produces audible sound when air passes through said noise maker.

8. The assembly according to claim 1, wherein said noise maker is selected from a group consisting of collapsed tubes, reeds, whistles and kazoos.

9. A toy football assembly, comprising:
   - A resilient shell having an external shape of a football, wherein said resilient shell is structurally biased into a fully expanded condition;
   - A collapsed tube contained within said resilient shell, wherein air from within said resilient shell passes through said collapsed tube when said resilient shell is deformed out of said fully expanded condition, wherein air passes through said collapsed tube causes said collapsed tube to vibrate and produce noise.

10. The assembly according to claim 9, further including a one-way valve disposed in said resilient shell to enable air to enter said resilient shell.

11. The assembly according to claim 10, wherein said resilient shell is molded from a plastic foam.

12. A whoopee cushion ball assembly, comprising:
   - A resilient shell structure that is self supporting in a fully expanded condition, wherein said resilient shell structure defines an internal chamber that is at its maximum volume when said shell structure is in said fully expanded condition;
   - An exit port for enabling air to exit said internal chamber when said shell structure is compressed from said fully expanded condition;
   - A collapsed whoopee cushion tube disposed in said exit port, wherein air passing through said exit port passes through said whoopee cushion tube and produces noise.

13. The assembly according to claim 12, further including an inlet port for enabling air to enter said internal chamber without passing through said exit port.

14. The assembly according to claim 13, further including a one-way valve disposed in said inlet port for enabling air to only flow into said internal chamber.

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