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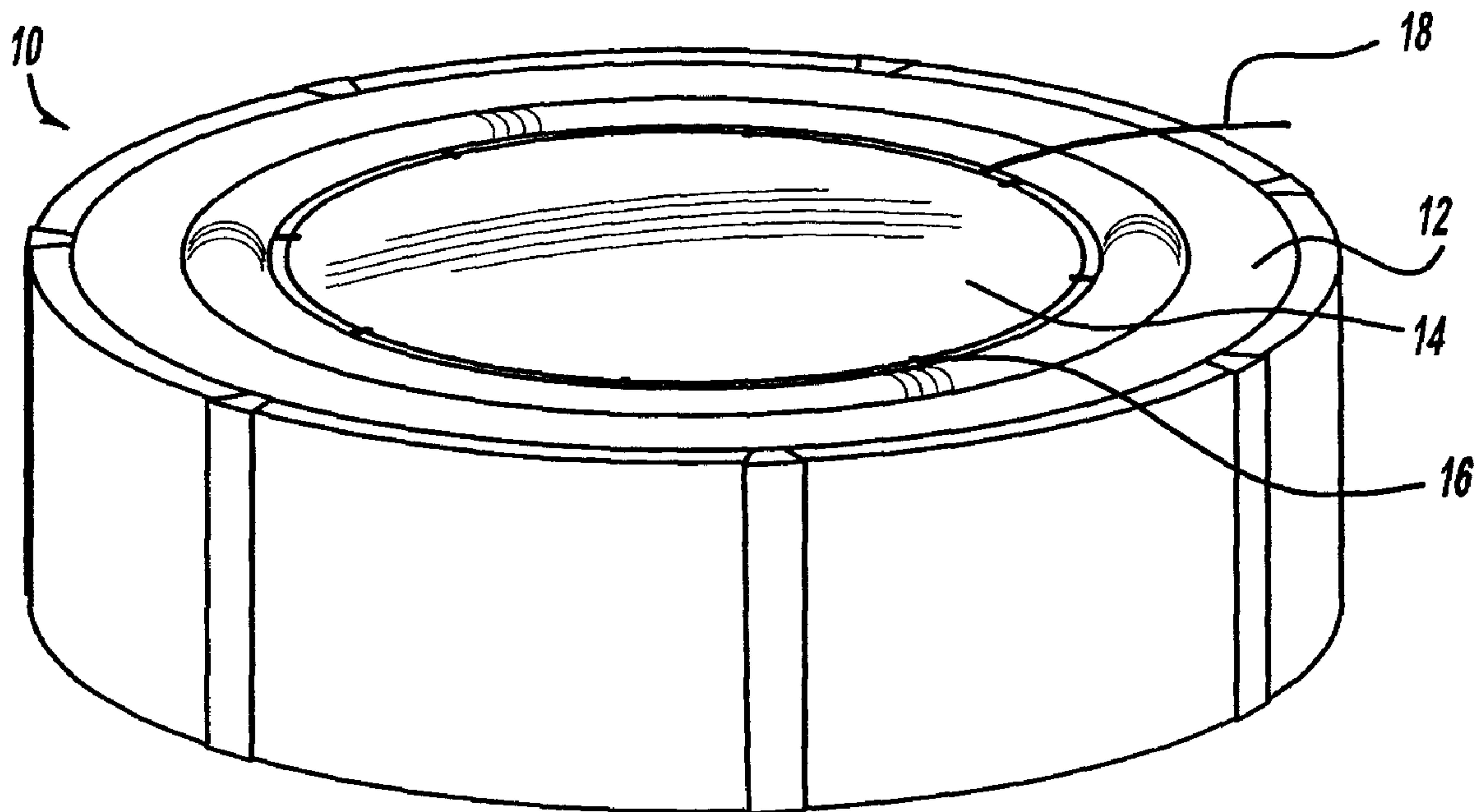
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(54) Titre : APPAREIL DESTINE A SERVIR AVEC UNE BACHE DE PISCINE

(54) Title: APPARATUS FOR USE WITH A SWIMMING POOL COVER



(57) Abrégé/Abstract:

An apparatus and method used in conjunction with a swimming pool cover for covering and uncovering a swimming pool to reduce or prevent standing water, dirt or debris from entering the pool when uncovering the pool. The apparatus includes a buoyant support member, and inflatable/deflatable bladder attached to the support member and a conduit for providing a fluid used to inflate and deflate the bladder. In operation, inflation of the bladder raises the pool cover above the pool deck, railing or peripheral edge whereby standing water, dirt or debris can be removed or washed from the cover prior to removing the cover from the pool.

ABSTRACT OF THE DISCLOSURE

An apparatus and method used in conjunction with a swimming pool cover for covering and uncovering a swimming pool to reduce or prevent standing water, dirt or debris from entering the pool when uncovering the pool. The apparatus includes a buoyant support member, and inflatable/deflatable bladder attached to the support member and a conduit for providing a fluid used to inflate and deflate the bladder. In operation, inflation of the bladder raises the pool cover above the pool deck, railing or peripheral edge whereby standing water, dirt or debris can be removed or washed from the cover prior to removing the cover from the pool.

APPARATUS FOR USE WITH A SWIMMING POOL COVER

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not Applicable.

FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not Applicable.

REFERENCE TO SEQUENCE LISTING

[0003] Not Applicable

BACKGROUND OF THE INVENTION

Field of the Invention

[0004] The present invention is related to an apparatus for use with a swimming pool; and more specifically, to a pool pillow or bladder for raising or lifting and supporting a pool cover.

Description of Related Art

[0005] In northern climates, during the winter months of the year when swimming pools are not in use, many pool owners use a cover. The cover helps to keep debris out of the pool making spring cleaning easier. Conventional swimming pool covers are typically a flexible and impervious plastic sheet or tarp placed over the pool. Depending upon the type of pool or pool configuration, the cover is adhered to the ground or in the case of pools with decks water tubes or bags are often placed on the surrounding deck on top of the cover to hold the cover in place.

[0006] Usually the cover rests below the peripheral edge or deck of the pool and on the surface of the pool water. Accordingly, leaves, sticks and other debris along with standing water collects on the cover during the course of the winter and must be removed in early spring prior to taking the cover off and opening the pool. Typically, great care needs to be taken when removing the cover to avoid dirty water and debris collected on top of the cover from draining into the pool. Removal often includes using a small pump to pump any standing water off the cover and then removing the cover with the debris located thereon. In many cases, leaves or other debris mixes with the water on the cover and clogs the pump making cleanup and uncovering the pool much more difficult.

[0007] Many different designs and systems have been employed in an attempt to prevent water and debris from collecting on the cover. One example of such a pool cover is illustrated in U.S. Patent No. 3,600,721 to Pusey. Pusey discloses a cover formed of a sheet of impervious material supported on its periphery by a raised inflatable tubular segment. The cover is free-floating and unattached to the pool sides but fits snugly against the pool sides to provide protection against dirt and debris entering the pool.

[0008] U.S. Patent No. 4,685,254 to Terreri discloses a swimming pool cover support and method of covering a pool using an inflatable balloon to elevate the center of the cover to prevent accumulation of debris on the cover.

[0009] U.S. Patent No. 4,825,479 to Bonneau discloses an inflatable swimming pool cover. The cover is impervious to air and has a skirt that extends into the water. Air pumped into the space between the cover and the surface of the water inflates and raises the cover to an arched configuration such that the cover floats on a cushion of air. A plurality of elastic cables secure the cover to the swimming pool.

[0010] U.S. Patent No. 6,539,559 to Creech et al. discloses an anti-litter float or balloon for a swimming pool. The balloon continuously abuts the containing wall and prevents litter from being dispersed into the pool water. Flaps or other element resistant covers can be used for mooring the balloon to batten down the pool.

[0011] U.S. Patent No. 6,694,539 to Kordell et al. discloses a pool cover that has a centrally located bubble and a series of inflatable branches connected to the centrally located bubble. The bubble is inflatable as well as the branches, which serve as a framework. A series of cover sections are located between the series of branches. The branches also serve as a means to removably tie down or attach the pool cover to the pool structure or adjacent securing objects.

[0012] A problem with using the prior art is that an air gap exists below the cover and above the water surface. Such a gap allows the cover to flap or vibrate on windy days. One way to reduce such vibration is to keep the cover taut; however, this results in additional problems in attempts and methods to anchor or hold the cover in place. Such systems often result in the use of heavier and stronger covers needed to support the anchor. Further, depending upon the geographic location, snowfall in colder climates can cause the cover to collapse as the weight may cause the balloon to burst or compress. Accordingly, to address these issues, the pool cover is typically arranged such that it lies on the surface of the water and located below the peripheral edge of the poolside whereby dirt and debris collect on the pool cover.

SUMMARY OF THE INVENTION

[0013] According to a preferred embodiment of the invention, there is provided an apparatus for use with a swimming pool cover. The apparatus includes a support member, a bladder attached to the support member and a conduit connected to and extending from the bladder with the conduit configured for bidirectional fluid flow used to inflate and deflate the bladder.

[0014] In a further embodiment of the invention, the support member is buoyant and floats or rests on the surface of the water located in the swimming pool. The support member further operates to hold the bladder in position.

[0015] An additional embodiment of the invention includes a method for covering and uncovering a swimming pool. The method including placing an apparatus having a buoyant support member and an inflatable bladder underneath a swimming pool cover with the bladder in a deflated position. The bladder is inflated to raise the swimming pool cover to a level above an upper edge of the pool periphery whereby any debris located on the pool cover falls or can be rinsed off or removed prior to removing the cover.

[0016] Accordingly, it is an object of the present invention to provide an apparatus and method enabling removal of a pool cover without allowing water and debris located on top of the cover from entering the pool.

[0017] These objects and other features, aspects and advantages of this invention will be more apparent after a reading of the following detailed description, appended claims and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] FIG. 1 is a perspective view of an apparatus for use with a swimming pool cover according to an embodiment of the present invention.

[0019] FIG. 2 is a side sectional view of the apparatus for use with a swimming pool cover as illustrated in FIG. 1.

[0020] FIG. 3 is a top view of the apparatus for use with a swimming pool cover as illustrated in FIG. 1.

[0021] FIG. 4 is a schematic side view of an apparatus for use with a swimming pool cover according to the present invention illustrated in a deflated condition in a swimming pool.

[0022] FIG. 5 is a schematic side view of an apparatus for use with a swimming pool cover according to the present invention illustrated in an inflated condition in a swimming pool.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0023] Turning now to FIGS. 1-3 there is shown one embodiment of an apparatus for use with a swimming pool cover, seen generally at 10, according to the present invention. The apparatus 10 includes a support member, illustrated as an outer tube or ring 12 and an inflatable and deflatable bladder 14. A plurality of clips 16 attach the bladder 14 to the outer tube or ring 12. An air line 18 connects to the bladder 14 and is used to inflate or deflate the bladder 14.

[0024] The support member 12 is buoyant and both supports and locates the bladder 14 on the water surface. Accordingly, the support member 12 has a construction

or design enabling it to float on the water surface. For example, in one embodiment the support member 12 includes a hollow elongated portion. In other embodiments, the support member 12 may be an inflatable tube, a solid tube made of an expanded polystyrene material, or any other material or construction that retains its shape and floats on the surface of the water.

[0025] The bladder 14 is capable of being inflated and deflated and as such is made of a sufficiently resilient and impervious material such as rubber or vinyl. The air line 18 is connected to the bladder 14 and provides a conduit for air flow when inflating or deflating the bladder 14. As illustrated a plurality of clips 16 are used to attach the bladder 14 to the support member 12. In one embodiment, the clips 16 are secured to the support member 12 and engage a portion of the bladder 14 such as an ear or tab 20. In this manner, the bladder 14 can be removed or replaced as needed. Further, while shown separate from the support member 12, and attached by clips 16, the bladder 14 can be made integral with the support member 12. For example, a circumferential bead or welt could divide a single member into two sections with one being the support member 12 and the other section being the bladder 14.

[0026] In keeping with the present invention, the support member 12 while shown in the instant embodiment as a circular, closed shape, annular member the support member 12 can be shaped depending upon the pool design. For example, the support member 12 may include a plurality of its spaced apart sections joined by connecting members. As illustrated, the support member 12 defines an interior opening in which the bladder 14 is located. Depending upon the design, the bladder 14 may also be located outside the support member 12 as opposed to positioned in the interior opening. With the

size of the support member 12 being such that it is typically spaced two to three feet from the peripheral edge of the pool. Accordingly, for a rectangular pool, the support member 12 will typically have a rectangular shape wherein the bladder 14 has a similar rectangular shape or it may have a different shape.

[0027] Turning to FIGS. 4-5, there is shown a schematic representation of an apparatus 10 in use with a swimming pool cover 30. As illustrated in FIG. 4, the apparatus 10, with the bladder 14 in the deflated condition is placed in the pool 22 with the support member 12. The bladder 14, in a deflated condition, floats on the water which is typically below the top surface of the deck or railing 26. The outer top periphery of the support member 12, when floating on the water is above the deck or railing 26. The apparatus 10 is typically located on the water surface 24 such that it is equally spaced from the inner peripheral edge 28 of the pool 22. Spacers or support lines, cables or other members can be used for this purpose. Once the apparatus 10 is located in the pool 22, the pool cover 30 is placed over the pool 22 and secured to the pool 22. As shown in FIG. 4, the pool cover 30 may (if it has accumulated water on the top surface of the pool cover 30) rest on the water surface 24 and will contact the upper most periphery of the support member 12 of the apparatus 10 which extends above the deck or railing 26. In this manner gaps between the pool cover 30 and the water surface 24 are minimized, thereby minimizing lifting, vibration and flapping of the pool cover 30. In the configuration illustrated in FIG. 4, over time water, snow, dirt and debris may accumulate on the pool cover 30. During installation it may be desired to inflate the bladder 14 to help place the pool cover 30 on the pool 22 and center the apparatus 10. Once the pool cover 30 is in place, the bladder 14 can then be deflated.

[0028] When it is desired to remove the pool cover 30 from the pool 22, the bladder 14 is inflated to the position shown in FIG. 5. To inflate the bladder 14, air from a suitable source such as a portable air pump (not shown) is supplied through the air line 18 to the bladder 14. Inflation of the bladder 14 continues until it lifts the pool cover 30 to a height above the deck or railing 26 of the pool 22 whereby any water, dirt or debris remaining on the pool cover 30 either runs off or may be washed off with a garden hose. Further, to the extent a large amount of water remains on the pool cover 30 inflation of the bladder 14 causes the water to congregate near the inner peripheral edge 28 adjacent the deck or railing 26 where it can easily be pumped off. Once a suitable amount of water located on the pool cover 30 is removed, the entire pool cover 30 can be raised above the deck or railing 26 of the pool 22 and sprayed off with a garden hose, after which the pool cover 30 can be removed without dirt or debris falling from the pool cover 30 into the pool 22.

[0029] Accordingly, the present invention provides an apparatus 10 that is disposed under the pool cover 30 and operates to lift the pool cover 30 prior to removal thereof to assist in the removal of any dirt and debris or standing water left on the pool cover 30. While shown with a standard pool cover 30, typically a sheet of a polypropylene, polyester or vinyl material, especially those that are impervious and require that any standing water be pumped off the pool cover 30, the apparatus 10 can be used with any type of pool cover 30.

[0030] It should be understood that in some instances the bladder 14 may be fully or partially inflated to support the pool cover 30 during the entire time the pool cover 30 is located on the pool 22. In these instances, the apparatus 10 self centers and raises the

pool cover 30 thereby reducing any accumulation of dirt, debris or standing water on the pool cover 30.

[0031] The description of the invention is merely exemplary in nature and, thus, variations that do not depart from the gist of the invention are intended to be within the scope of the invention. Such variations are not to be regarded as a departure from the spirit and scope of the invention.

CLAIMS

What is claimed is:

1. An apparatus for use with a swimming pool cover comprising:
a support member;
a bladder attached to said support member; and
a conduit connected to and extending from said bladder, said conduit configured for bidirectional fluid flow used for inflating and deflating said bladder.
2. An apparatus as set forth in Claim 1 wherein said support member is buoyant.
3. An apparatus as set forth in Claim 1 wherein said support member includes a hollow elongated portion.
4. An apparatus as set forth in Claim 2 wherein said support member is formed of a polystyrene material.
5. An apparatus as set forth in Claim 1 wherein said support member includes an inflatable tubular portion.
6. An apparatus as set forth in Claim 1 wherein said support member includes a buoyant, elongated portion configured in a closed shape defining an opening with said bladder located in said opening.

7. An apparatus as set forth in Claim 6 including a plurality of clips extending from said support member to said bladder to secure said bladder in said opening.

8. An apparatus as set forth in Claim 6 wherein said support member has an annular configuration.

9. An apparatus as set forth in Claim 1 wherein said support member and said bladder are one-piece.

10. A method of covering and uncovering a swimming pool comprising the steps of:

covering the swimming pool by placing an apparatus including a support member, a bladder connected to said support member and a conduit on a surface of the water in said swimming pool with said bladder deflated;

placing a pool cover over said apparatus and securing said pool cover in place;

uncovering said swimming pool by supplying fluid through said conduit to said bladder to inflate said bladder and raise the level of said pool cover to a position above a peripheral edge of said swimming pool; and

removing any debris from said pool cover prior to unsecuring and removing said pool cover from said swimming pool.

11. A method of covering and uncovering a swimming pool as set forth in Claim 10 including the step of partially inflating said bladder to raise a portion of said pool cover above said peripheral edge of said swimming pool whereby standing water on said pool cover congregates adjacent said peripheral edge of said swimming pool and pumping a portion of said standing water off of said pool cover prior to removing said pool cover.

12. A method of covering and uncovering a swimming pool as set forth in Claim 10 including the step of rinsing said pool cover to remove any said debris therefrom prior to removing said pool cover.

13. A method of covering and uncovering a swimming pool as set forth in Claim 10 wherein the step of placing said apparatus in said swimming pool includes the step of partially inflating said bladder after said pool cover is placed on said swimming pool to center said apparatus and space said apparatus from said peripheral edge of said swimming pool.

14. A method of covering and uncovering a swimming pool as set forth in Claim 13 wherein after said apparatus is centered, said bladder is deflated and said pool cover holds said apparatus in position.

15. A method of uncovering a swimming pool comprising the steps of:

initially covering the swimming pool by placing an apparatus having a buoyant support member and an inflatable bladder capable of moving between a first, deflated position and a second, inflated position underneath a pool cover with said bladder in said first, deflated position;

inflating said bladder to raise the said pool cover to a level above an upper edge of said swimming pool to remove any debris located on said pool cover.

16. A method of uncovering a swimming pool as set forth in Claim 15 including attaching a fluid conduit to said bladder and using said fluid conduit to supply fluid to said bladder to inflate said bladder.

17. A method of uncovering a swimming pool as set forth in Claim 16 where in said fluid includes air.

18. A method of uncovering a swimming pool as set forth in Claim 15 including the step of partially inflating said bladder to partially raise said pool cover whereby water located on said pool cover congregates adjacent a peripheral edge of said swimming pool and pumping at least a portion of said water off of said pool cover prior to further inflating said bladder and raising said pool cover.

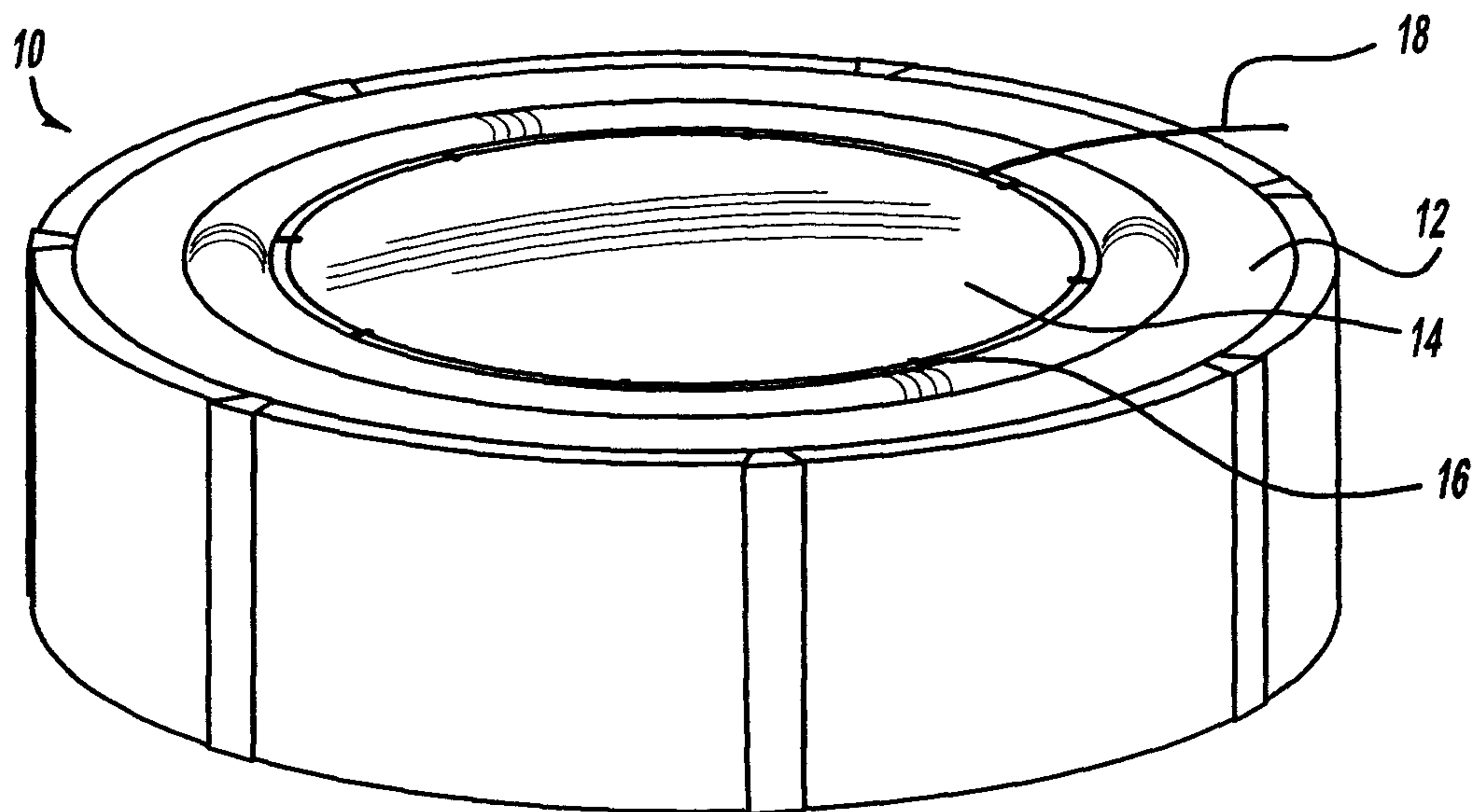


FIG - 1

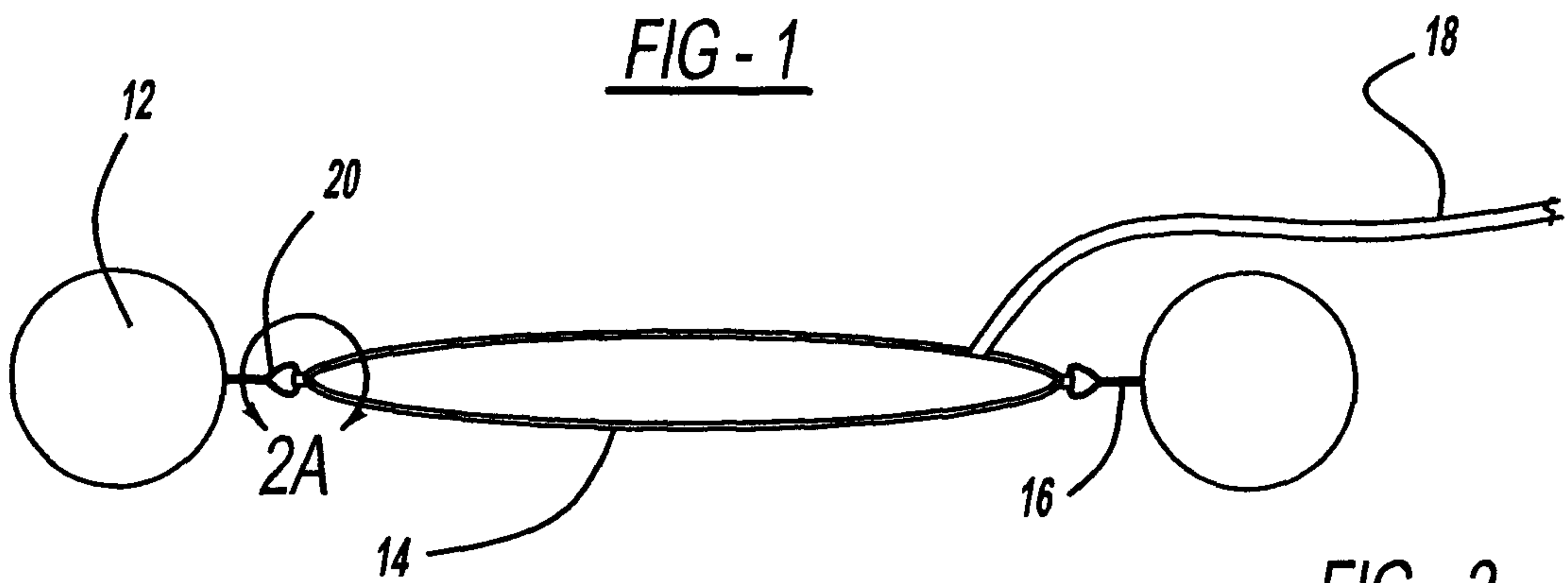


FIG - 2

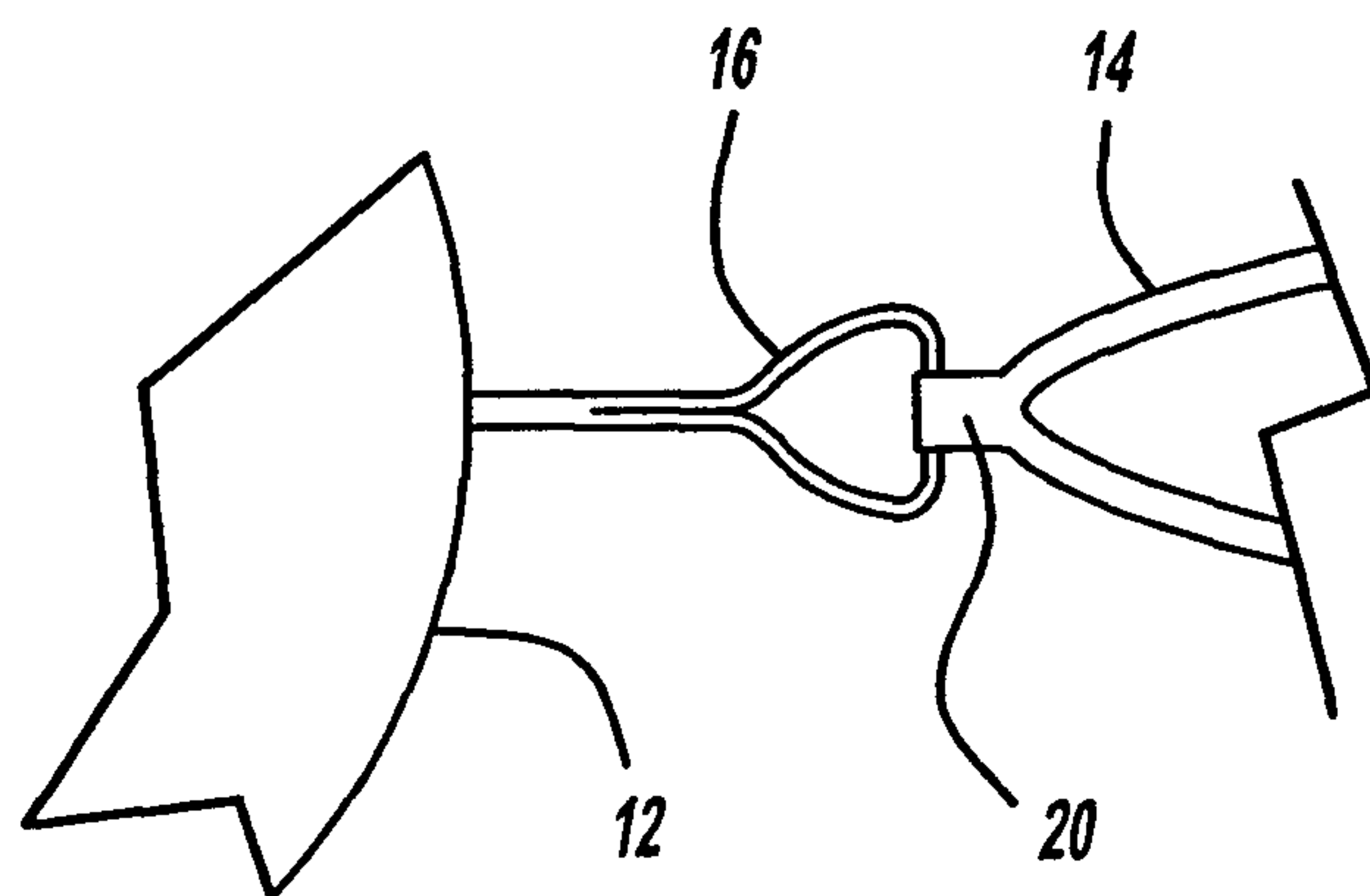


FIG - 2A

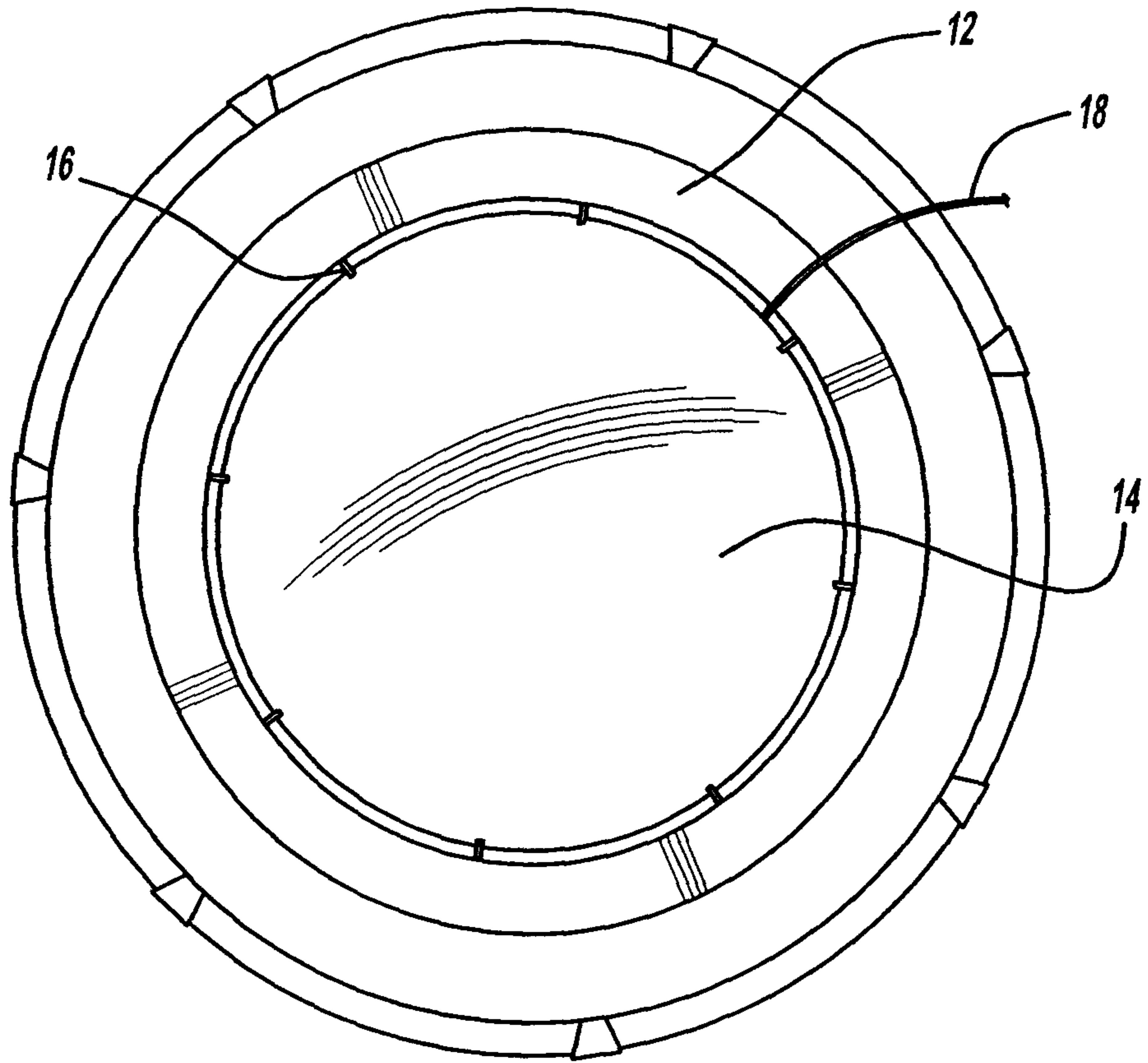


FIG - 3

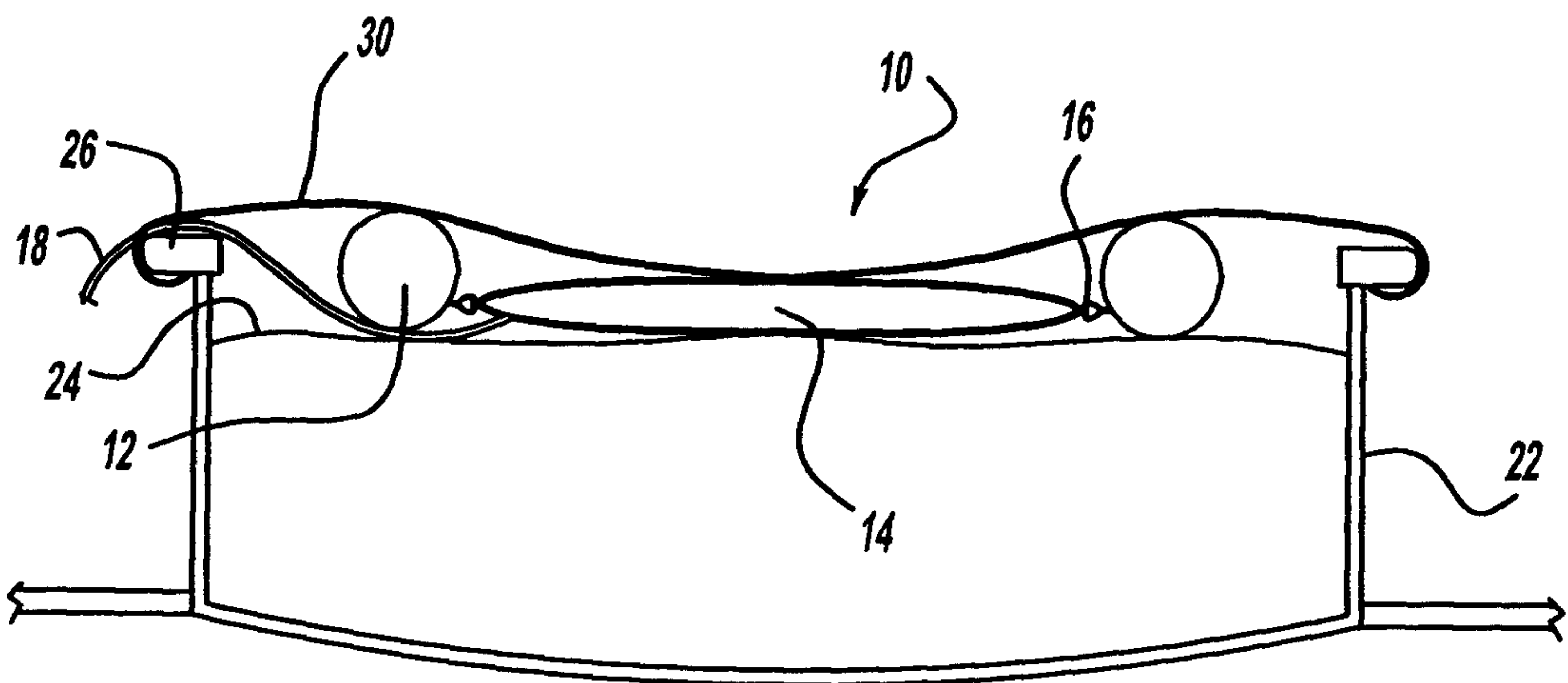


FIG - 4

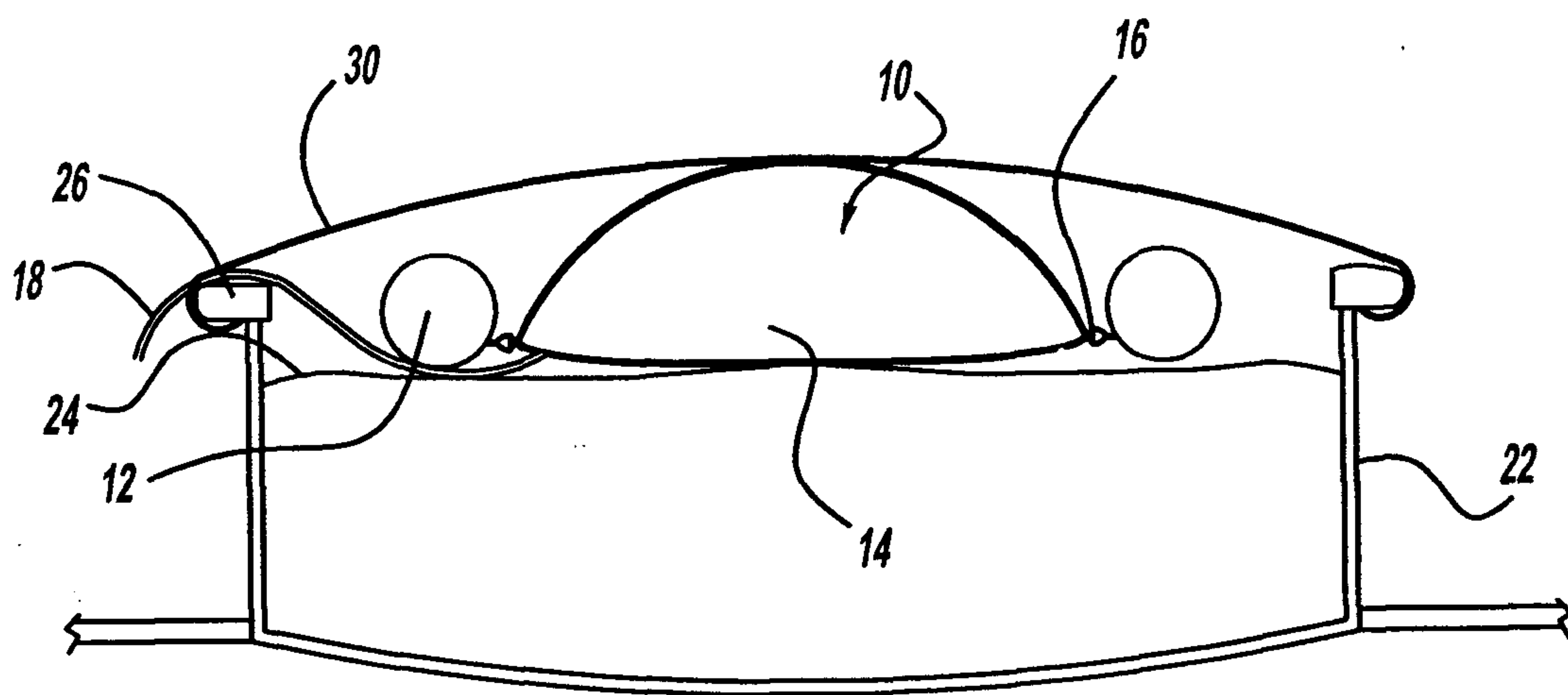


FIG - 5

