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(54) **SWIMSUIT WITH LIFESAVING DEVICE**

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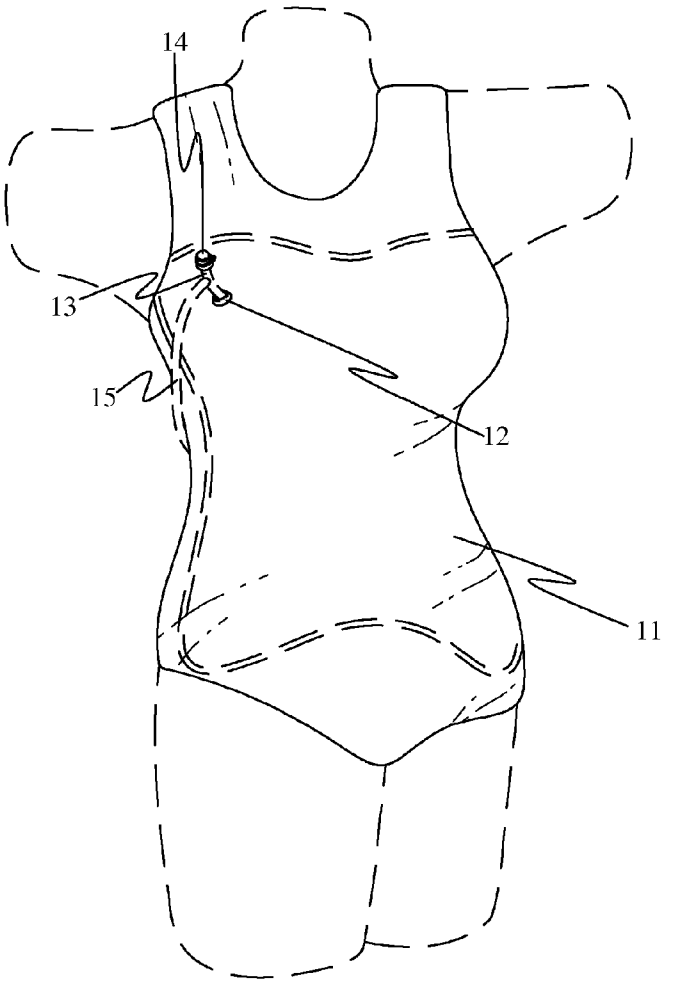
(57) **ABSTRACT**

A swimsuit with lifesaving device is disclosed. The lifesaving device for the swimsuit includes an inflatable bag having an air inlet and embedded in a double-layer structure of the swimsuit to invisibly locate behind a front side of the swimsuit; a manual inflating tube connected at an end to the air inlet and embedded in the double-layer structure with an opposite end exposed from the swimsuit to provide a mouthpiece; a branch tube extended from the manual inflating tube and embedded in the double-layer structure; and an automatic inflator connected to a distal end of the branch tube and embedded in the double-layer structure to locate in a rear side of the swimsuit. The inflatable bag can be manually inflated via the mouthpiece or automatically inflated via the automatic inflator to serve as a buoy, which is helpful in learning swimming and in case of emergency in water.



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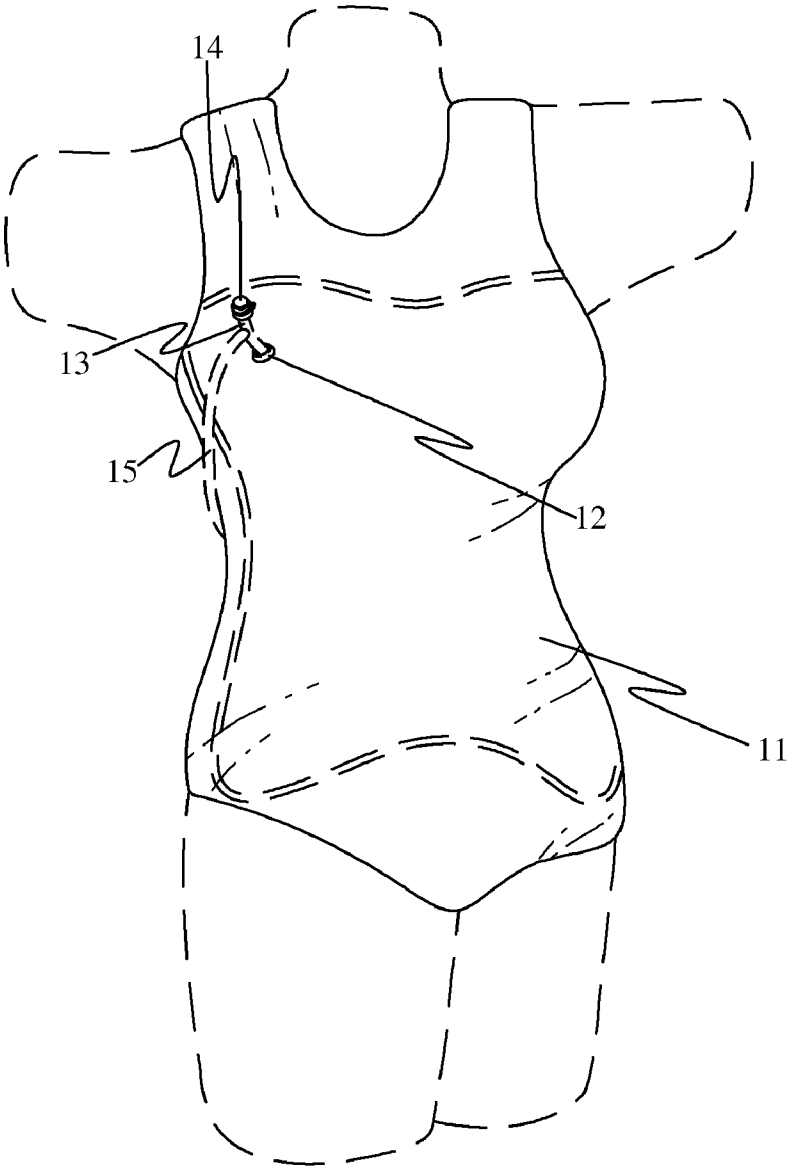

FIG. 1

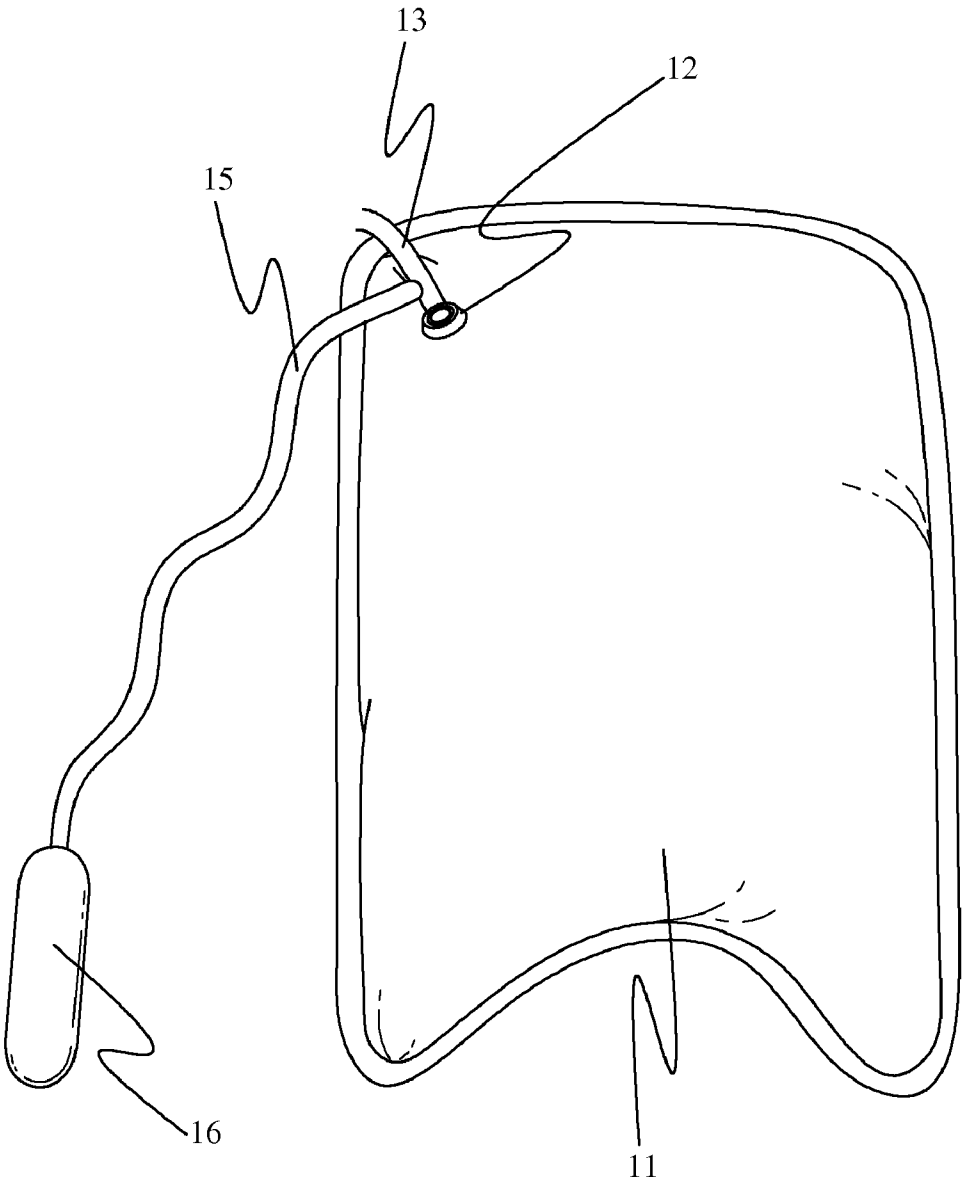

FIG. 2

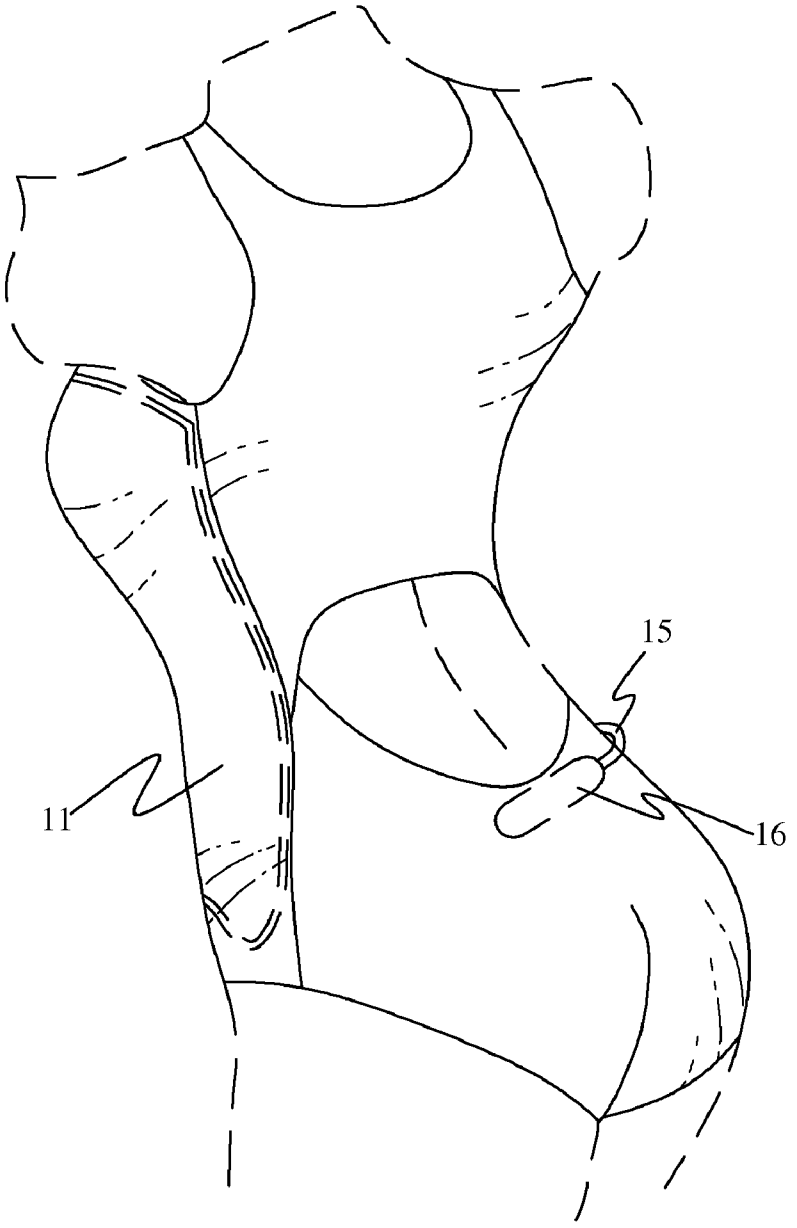

FIG. 3

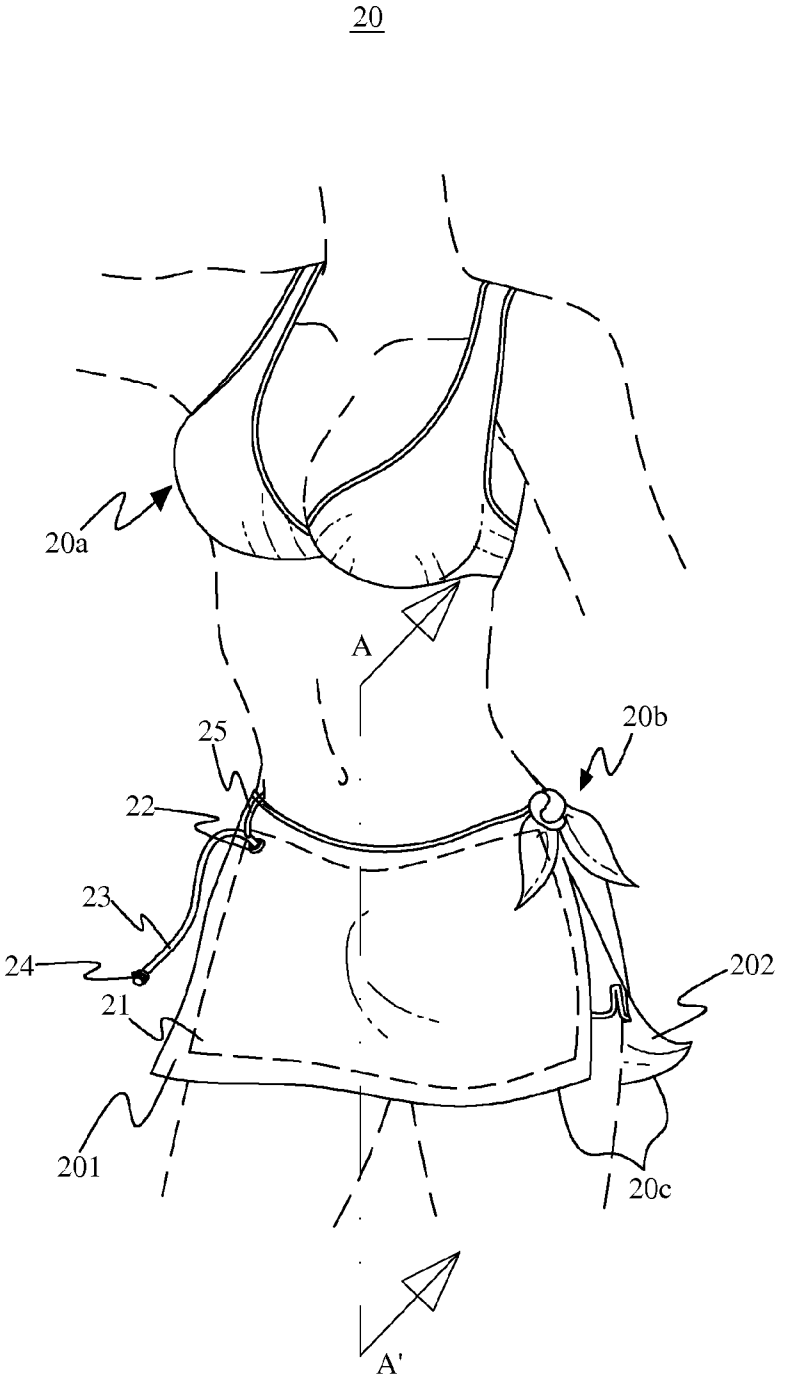

FIG. 4

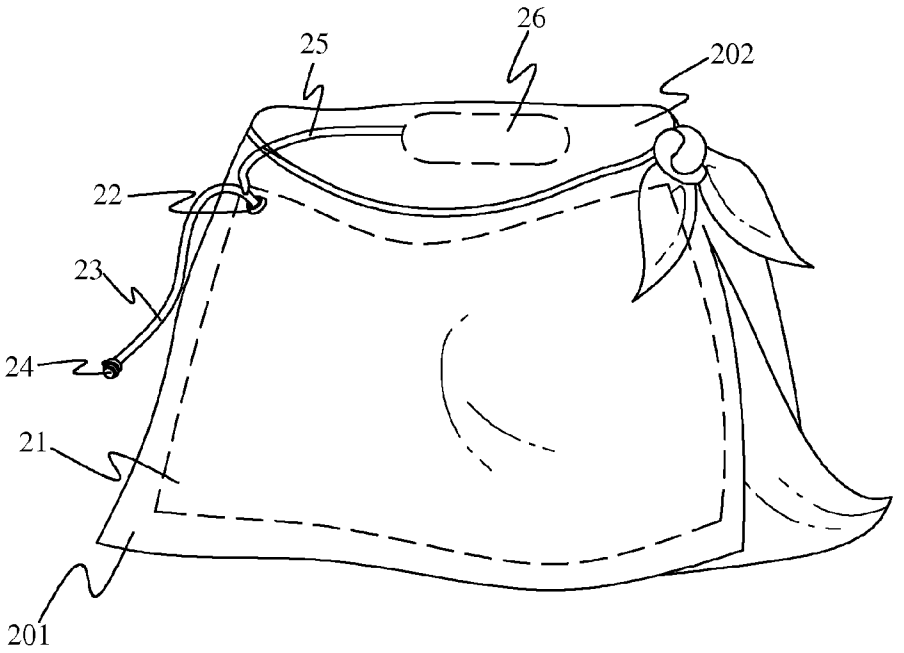

FIG. 5

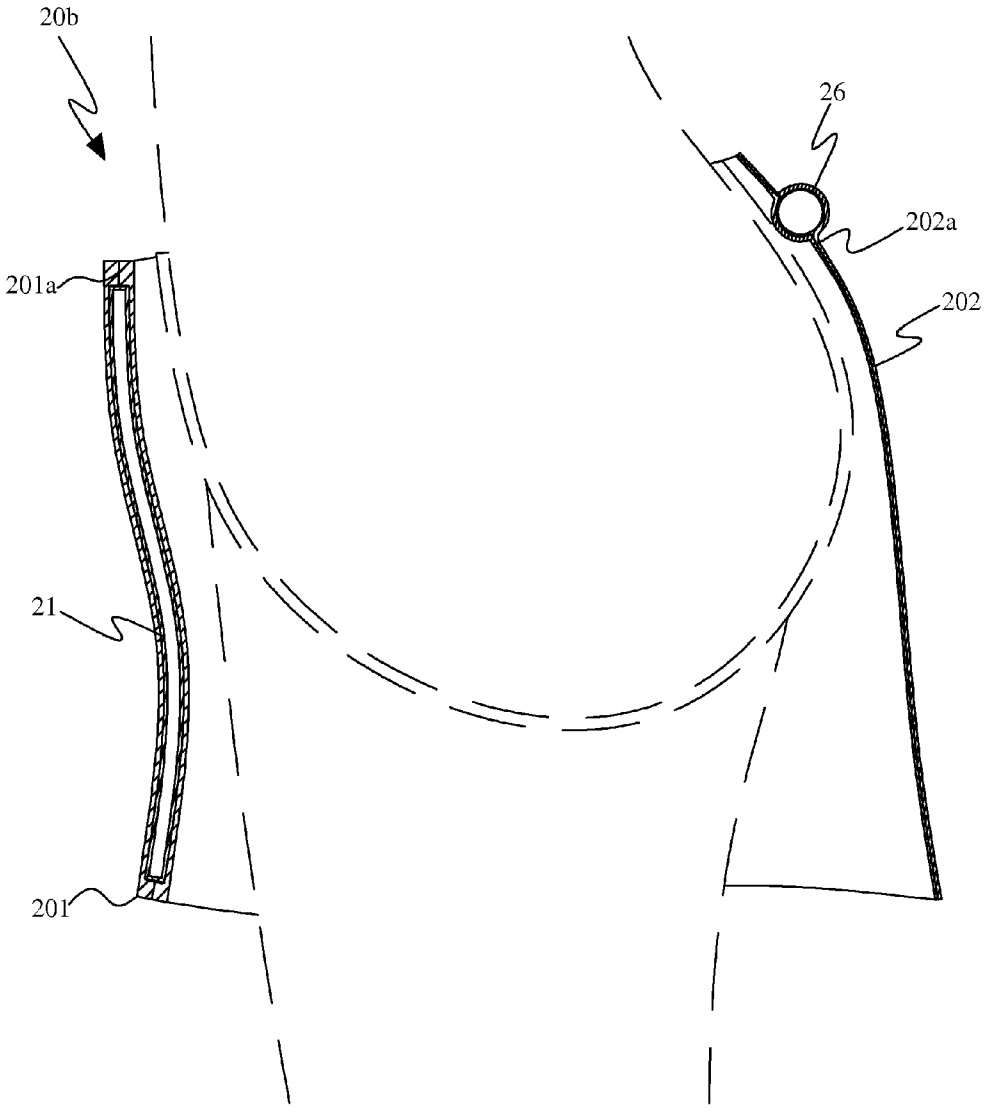

FIG. 6

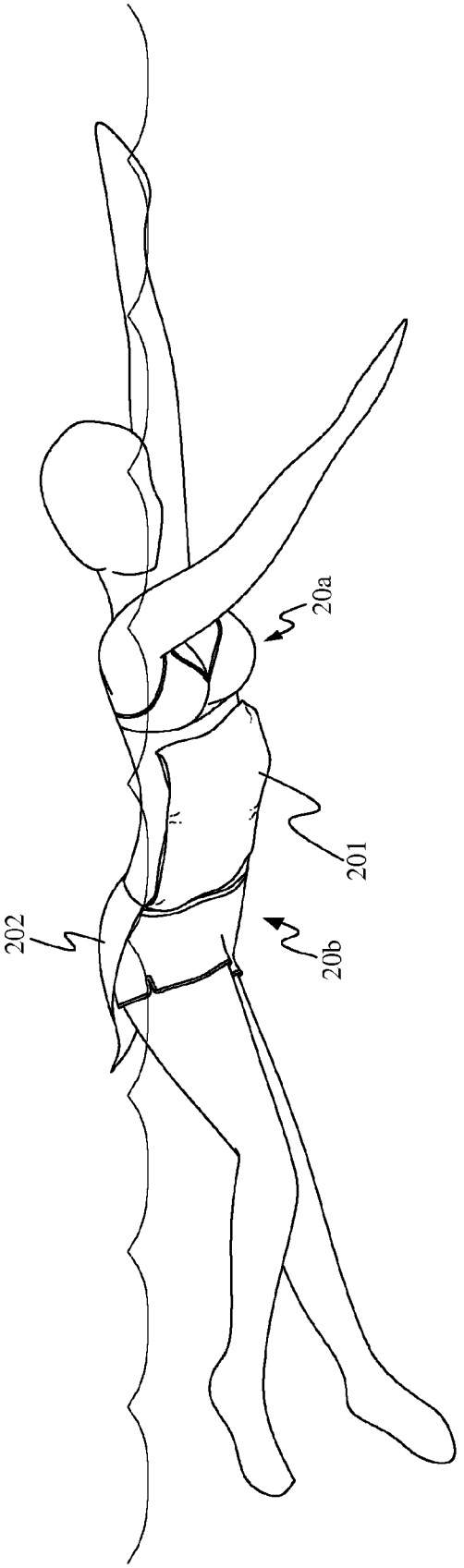

FIG. 7

SWIMSUIT WITH LIFESAVING DEVICE

FIELD OF THE INVENTION

[0001] The present invention relates to a swimsuit with lifesaving device, and more particularly to a swimsuit integrally provided with an inflatable bag, which can be manually or automatically inflated to serve as a buoy in case of emergency in water.

BACKGROUND OF THE INVENTION

[0002] People usually wear a swimsuit in water activities, such as learning swimming. A common obstacle for most people who just start learning swimming is failing to relax their muscles and mind for fearing of drowning. Various types of auxiliary devices, such as floats and swimming belts, are therefore developed and introduced into market to help swimming learners to float on water. However, it is troublesome to carry such floats and swimming belts around, particularly for those who prefer to engage in water activities in an easy and convenient manner.

[0003] Further, people loving water activities are frequently drowned to death due to swimming in unfamiliar water areas or in bad weather. There are only a few minutes of golden time for the drowning people to survive and it is impossible for them to wait for life guards or other rescue. To avoid such unfortunate events, people are requested to wear a lifejacket or other lifesaving devices when they engage in water activities. Nevertheless, many people ignore the important lifesaving devices due to the inconvenience brought by wearing them.

[0004] It is therefore tried by the inventor to develop a swimsuit that can provide the function as a lifesaving device in the case of emergency in water, so that both swimming learners and experienced swimmers are protected by their swimsuit against drowning to lessen many tragedies in our life.

SUMMARY OF THE INVENTION

[0005] A primary object of the present invention is to provide a swimsuit with lifesaving device, which maintains an esthetic appearance and is safe for use in learning swimming.

[0006] Another object of the present invention is to provide a swimsuit with lifesaving device, and the lifesaving device includes an inflatable bag that can be manually or automatically inflated to serve as a buoy in case of emergency in water.

[0007] To achieve the above and other objects, the swimsuit with lifesaving device according to the present invention includes a swimsuit having a double-layer structure formed at predetermined positions thereof, an inflatable bag embedded in and integrally sewn to the double-layer structure of the swimsuit, a manual inflating tube having an end connected to an air inlet on the inflatable bag and embedded in the double-layer structure of the swimsuit with an opposite end exposed from the swimsuit to provide a mouthpiece, a branch tube extended from the manual inflating tube and embedded in the double-layer structure of the swimsuit, and an automatic inflator connected to a distal end of the branch tube and embedded in the double-layer structure of the swimsuit to locate opposite to the inflatable bag. It is noted the inflatable bag is extended to outmost edges of the double-layer structure at the front side of the swimsuit.

[0008] In a preferred embodiment of the present invention, the automatic inflator is a carbon dioxide cylinder.

[0009] In an operable embodiment of the present invention, the swimsuit is a one-piece swimsuit, and the inflatable bag embedded in the double-layer structure is invisibly located behind a front side of the one-piece swimsuit while the automatic inflator is located in a rear portion of the one-piece swimsuit.

[0010] In another operable embodiment of the present invention, the swimsuit is a two-piece swimsuit formed of a top part and a bottom part. The bottom part is in the form of a pair of shorts and further has a front panel and a rear panel externally loosely extended from an upper edge of the bottom part to form a skirt portion. The inflatable bag is embedded in the double-layer structure formed on the front panel, and the automatic inflator is embedded in the double-layer structure formed on the rear panel.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The structure and the technical means adopted by the present invention to achieve the above and other objects can be best understood by referring to the following detailed description of the preferred embodiments and the accompanying drawings, wherein

[0012] FIG. **1** shows a one-piece swimsuit with lifesaving device according to a first embodiment of the present invention;

[0013] FIG. **2** shows the lifesaving device provided on the one-piece swimsuit of FIG. **1**;

[0014] FIG. **3** shows an automatic inflator of the lifesaving device is embedded in a rear side of the one-piece swimsuit of FIG. **1**;

[0015] FIG. **4** shows a two-piece swimsuit with lifesaving device according to a second embodiment of the present invention;

[0016] FIG. **5** shows an automatic inflator of the lifesaving device is embedded in a rear panel on a bottom part of the two-piece swimsuit of FIG. **4**;

[0017] FIG. **6** is a sectional view taken along line A-A' of FIG. **4**; and

[0018] FIG. **7** shows the two-piece swimsuit with lifesaving device according to the present invention in use.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] The present invention will now be described with some preferred embodiments thereof and with reference to the accompanying drawings.

[0020] In a first embodiment of the present invention, there is provided a one-piece swimsuit **10** with lifesaving device, as shown in FIGS. **1** to **3**; and in a second embodiment of the present invention, there is provided a two-piece swimsuit **20** with lifesaving device, as shown in FIGS. **4** to **6**.

[0021] Please now refer to FIGS. **1** and **2**. The one-piece swimsuit **10** has a double-layer structure **17** formed at predetermined positions thereof. The lifesaving device for the one-piece swimsuit **10** according to the first embodiment of the present invention includes an inflatable bag **11** embedded in and integrally sewn to the double-layer structure **17** to invisibly locate behind a front side of the one-piece swimsuit **10**. The inflatable bag **11** is provided near an upper position with an air inlet **12**, via which air can flow into the inflatable bag **11**. A manual inflating tube **13** is connected at an end to the air inlet **12** and is also embedded in the double-layer structure **17** of the one-piece swimsuit **10**. An opposite end of the manual

inflating tube **13** is exposed from the front side of the one-piece swimsuit **10** to provide a mouthpiece **14**, via which air can be blown to manually inflate the inflatable bag **11**. It is noted the inflatable bag **11** is extended to outmost edges of the double-layer structure **17** at the front side of the one-piece swimsuit **10**.

[0022] Please refer to FIG. **3** along with FIGS. **1** and **2**. As shown, the tube **13** is flexible and includes a branch tube **15**, which is also embedded in and sewn to the double-layer structure **17** of the one-piece swimsuit **10**. The branch tube **15** extends a predetermined length to connect at a distal end to an automatic inflator **16**, which can automatically supply air to inflate the inflatable bag **11** when being actuated. The automatic inflator **16** is embedded in the double-layer structure **17** to invisibly locate in a rear side of the one-piece swimsuit **10** near a wearer's waist. In the illustrated first embodiment of the present invention, the automatic inflator **16** is a carbon dioxide (CO_2) cylinder. In the case of drowning in water, the wearer needs only to open the carbon dioxide cylinder **16**, and the inflatable bag **11** will be immediately automatically inflated to achieve the purpose of lifesaving in an emergency.

[0023] Please refer to FIGS. **4** to **6**. The two-piece swimsuit with lifesaving device **20** according to the second embodiment of the present invention is formed of a top part **20***a* covering a wearer's chest and a bottom part **20***b* covering the wearer's crotch and buttocks. The bottom part **20***b* is in the form of a pair of shorts and further has a front panel **201** and a rear panel **202** externally loosely extended from an upper edge of the bottom part **20***b;* and the front and rear panels **201**, **202** together form a skirt portion **20***c* outside the bottom part **20***b*. The lifesaving device for the two-piece swimsuit **20** according to the second embodiment of the present invention includes an inflatable bag **21** embedded in and integrally sewn to a double-layer structure **201***a* formed on the front panel **201**. The inflatable bag **21** is provided at a predetermined position with an air inlet **22**, via which air can flow into the inflatable bag **21**. A manual inflating tube **23** is connected at an end to the air inlet **22** and is also embedded in the double-layer structure **201***a* on the front panel **201**. An opposite end of the manual inflating tube **23** is exposed from the front panel **201** to provide a mouthpiece **24**, via which air can be blown to manually inflate the inflatable bag **21**. It is noted the inflatable bag **21** is extended to outmost edges of the double-layer structure **201***a* on the front panel **201**.

[0024] An automatic inflator **26** is embedded in a double-layer structure **202***a* formed on the rear panel **202** to locate near an upper edge thereof. The tube **23** is flexible and includes a branch tube **25**, which is extended from the front panel **201** along an upper edge of the bottom part **20***b* to the rear panel **202** for connecting to the automatic inflator **26**. In the second embodiment of the present invention, the automatic inflator **16** is a carbon dioxide (CO_2) cylinder. In the case of drowning in water, a wearer needs only to open the carbon dioxide cylinder **26**, and the inflatable bag **21** will be immediately automatically inflated to achieve the purpose of lifesaving in an emergency.

[0025] FIG. **7** shows the two-piece swimsuit with lifesaving device **20** according to the second embodiment of the present invention in use. Please refer to FIG. **7** along with FIGS. **4** to **6**. The inflatable bag **21** can be manually inflated by blowing air into the inflatable bag **21** via the mouthpiece **24**, or be automatically inflated by opening the automatic inflator **26**. When the inflatable bag **21** is inflated, the front panel **201** can be turned over from the bottom part **20***b* to cover the wearer's belly and serve as a buoy, which is helpful in learning swimming or in an emergency in water.

[0026] In brief, the present invention provides a swimsuit with lifesaving device. The lifesaving device includes an inflatable bag that can be manually inflated by blowing air via a mouthpiece or be automatically inflated by opening an automatic inflator that is connected to the inflatable bag via a flexible tube. Therefore, the swimsuit according to the present invention is safe for use in learning swimming and in an emergency during a water activity. Further, since the inflatable bag, the automatic inflator and the inflating tubes all are invisibly embedded in the double-layer structure of the swimsuit, the swimsuit with the lifesaving device can maintain an esthetic appearance.

[0027] The present invention has been described with some preferred embodiments thereof and it is understood that many changes and modifications in the described embodiments can be carried out without departing from the scope and the spirit of the invention that is intended to be limited only by the appended claims.

What is claimed is:

1. A swimsuit with lifesaving device, comprising a swimsuit and a lifesaving device;

the swimsuit having a double-layer structure formed at predetermined positions thereof; and the lifesaving device including an inflatable bag embedded in and integrally sewn to the double-layer structure of the swimsuit and provided with an air inlet, a manual inflating tube connected at an end to the air inlet and embedded in the double-layer structure with an opposite end exposed from the swimsuit to provide a mouthpiece, a branch tube extending from the manual inflating tube and embedded in the double-layer structure of the swimsuit, and an automatic inflator connected to a distal end of the branch tube and embedded in the double-layer structure of the swimsuit to locate at a position opposite to the inflatable bag; and the inflatable bag being extended to outmost edges of the double-layer structure of the swimsuit.

2. The swimsuit with lifesaving device as claimed in claim **1**, wherein the automatic inflator is a carbon dioxide cylinder.

3. The swimsuit with lifesaving device as claimed in claim **1**, wherein the swimsuit is a one-piece swimsuit; and the inflatable bag embedded in the double-layer structure being invisibly located behind a front side of the one-piece swimsuit while the automatic inflator embedded in the double-layer structure being located in a rear side of the one-piece swimsuit.

4. The swimsuit with lifesaving device as claimed in claim **1**, wherein the swimsuit is a two-piece swimsuit formed of a top part and a bottom part; the bottom part being in the form of a pair of shorts and further having a front panel and a rear panel externally loosely extended from an upper edge thereof to form a skirt portion; the double-layer structure being provided on the front panel and the rear panel; and the inflatable bag being embedded in the double-layer structure on the front panel while the automatic inflator being embedded in the double-layer structure on the rear panel.

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