May 5, 1931. E. DIAMOND 1,803,898

NONSINKABLE BATHING SUIT

Filed Oct. 20, 1930

Fig. 1.

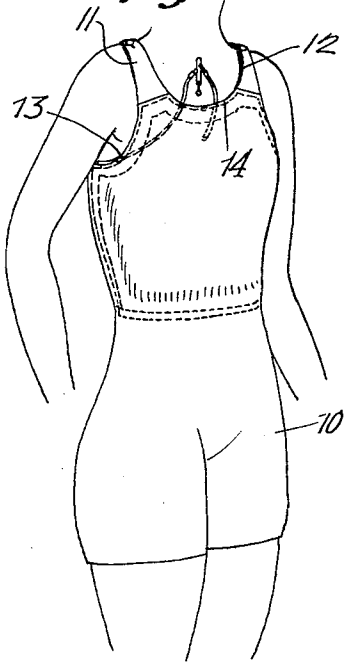


Fig. 2.

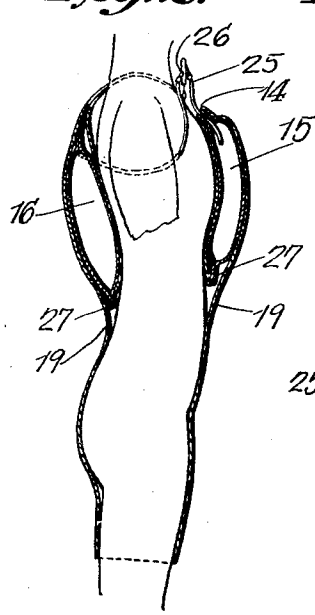


Fig. 3.

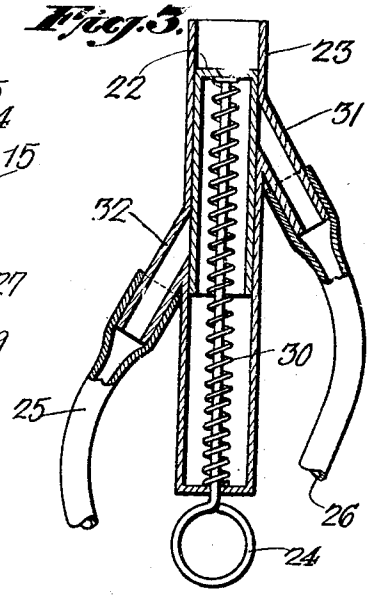


Fig. 4.

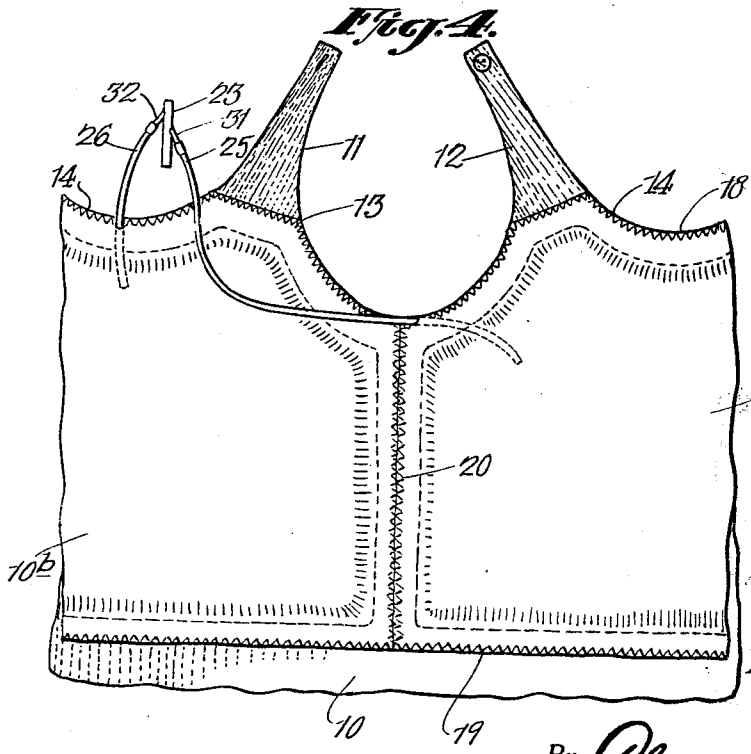
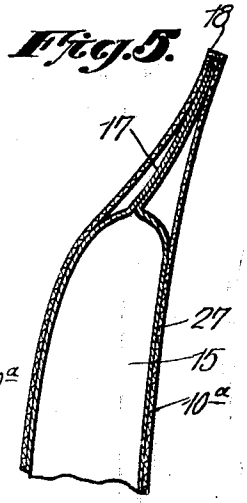


Fig. 5.



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Patented May 5, 1931

1,803,898

UNITED STATES PATENT OFFICE

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NONSINKABLE BATHING SUIT

Application filed October 20, 1930. Serial No. 490,013.

This invention relates to bathing suits and it particularly relates to bathing suits of the inflatable type.

It is an object of the invention to provide simple means in the form of a nonsinkable bathing suit having air-chambers to be inflated when used and which will allow a person, unable to swim, to float in the water with absolute safety of life.

It is a further object of the invention to provide life saving means in the form of a nonsinkable bathing suit similar in appearance to the usual bathing suit, and which is made to snugly fit the form of a person and not to detract from the neat appearance of the person even when the suit is inflated for use.

It is another object of the invention to provide a nonsinkable bathing suit having more than one air-chamber which, though they can be easily inflated simultaneously, are independent from each other so that, even in case one air-chamber should be leaking, enough buoyancy is left in the suit to safely sustain the person using it.

These, and other objects, will be more apparent from the description below and from the accompanying drawings, in which:

Figure 1, is a perspective view illustrating the manner of wearing the suit,

Figure 2, is a vertical sectional view illustrating the bathing suit inflated,

Figure 3, is a sectional view of a valve regulating the passage of the air into and from the air-chambers,

Figure 4, is a detail plan view of one half of the suit, seen from the inside, the cloth, covering the air-chambers, having been removed and the suit being spread flat so as to show the relation between the air chambers and the inflating means and furthermore how the air-chambers are secured to the bathing suit proper, and;

Figure 5, is a fragmentary sectional view.

My improvement is capable of being embodied in any type of the bathing suits generally in use; as for example a one-piece bathing suit or a suit having the trunks and the shirt portion separate. By way of example I am going to describe how I arrange the various elements of my invention in the usual one-piece suit, such as denoted in the drawings by the numeral 10, the same being held on the person by shoulder straps 11 and 12 and having a wide arm-pit 13 so that the suit 10 will not interfere with movement of the arms. It will be advantageous to keep the lowest rim or line of the neck 14 in proximity of the mouth of the wearer for instance slightly above the chest.

Air bags 15 and 16, serving as air-chambers, are secured to the suit 10 on the inside of the same to the front 10*a* and to the back 10*b*, respectively. These bags 15 and 16 are of the same size and extend from the neck line 14 downwardly approximately to the waist line so as to leave the abdominal portion of the wearer uncovered by the bags and on the sides they extend to the center of the wearer i. e. to the vertical line 20 from the arm-pit 13 downwardly. It thus appears that the rubber bags 15 and 16 fully cover the chest and back of the wearer, this being the heaviest portion of the human body.

The rubber bags 15 and 16 may be made of very fine elastic rubber sheets by laying two such rubber sheets on top of each other and joining them together all along their edges by a cementitious agent as at 17. Particular care is taken to make this joint between the members wide, for instance, one half to three-quarter inch, which is very important because the bags 15 and 16 are further secured at this point by stitches 18, or any other suitable means, to the front and back part, respectively, on the inside of the same; as the line of stitches 18 is made on the outer edge of this joint, it follows that a leak of the air-chambers is rendered impossible because the width of the joint prevents the air-chambers from being torn up if the joint 17 should be cut even for the length of some stitches.

From an inspection of Figure 2 it will be noted that a kind of apron in the form of a sheet of cloth 27 is inserted between the body of the person and the bags 15 and 16 this being done to facilitate the expansion of the bags as will be seen from a further explanation below and furthermore to prevent the

uncomfortable feeling caused by a sheet of wet impervious material clinging tightly to the skin. It will be further noted from Figure 2 that this apron 27 is united by stitches 18, or any other suitable means, at its lower end to the bags 15 and 16 only, while above around the neck 14, arm pits 13 and along the side lines 20 the edges of apron 27 and the joint 17 of the bags 15 and 16 are fastened by stitches 18, or any other suitable means, to the suit 10, the line of stitches, thus formed, may be interrupted by a pocket arranged below the strap 12 though said pocket may also be arranged at any other convenient place.

The fact that the lower end of the bags 15 and 16 is secured only to the apron and not to the front 10*a* and 10*b*, respectively, facilitates greatly the inflation of the said bags because they are not hindered in their expansion.

A valve 22, having an orifice 23 and being operated by a handle 24, or any other means for regulating the passage of a gaseous fluid, is provided shortly above the neck line 14. The said valve is actuated by an expansion spring 30 and has two laterally disposed divergent branches 31 and 32 extending into rubber tubings, of which the tube 25 is connected and communicates with the bag 15 and the tube 26 with the bag 16.

Figure 3 illustrates that when the handle 24 is pulled out the communication with bags 15 and 16 is simultaneously open and the person, when putting his mouth to the orifice 23, can blow enough air into said bags 15 and 16 to inflate them to provide enough buoyancy to carry a person safely for a long time. Likewise, on pulling the handle 24 outwardly, the air is immediately discharged from both bags 15 and 16 simultaneously. If the person does not wish that the valve 22 and the tubings 25 and 26 be seen, he can hide them in the pocket mentioned above.

My nonsinkable bathing suit offers, besides the above mentioned precaution against disastrous leaks by providing the air-chambers or bags with a wide rim all around their edges and securing them to the bathing suit as described above, another great factor of safety offered by the two air-chambers or bags being arranged independently of each other though they can be jointly inflated or deflated.

It is self-evident that as soon as the bags or air-chambers 15 and 16 are inflated and the valve 22 is closed, no communication between the two bags exists and furthermore the bags are secured all around their edges to the front 10*a* and the back 10*b* respectively, and to the apron 27 the air in the bags 15 and 16 is confined in the same and cannot shift to other parts of the suit. If the person using my nonsinkable bathing suit inflates it and floats on his back, the air in the rear bag 16 must carry him all the time because there is no possibility that the air by the weight of the person and the water pressure be forced upwardly to the front chamber because there is absolutely no connection between the same after the valve 22 is closed. If during use of the nonsinkable bathing suit during floating in the water the person should puncture one of the air bags, for instance by striking against an obstruction, the person is still in absolute safety because all he has to do is to turn around and float on the other side supported by the air-chamber or bag which is still perfectly intact and inflated.

These features pointed out above are some of the essential features by which my nonsinkable bathing suit differs from those of the prior art and though I have described my new invention by the best example known to me at the present state of its development, I am aware that further improvements can be made without deviating from the spirit of, or sacrificng the advantages of the constructive principle of my invention and any such changes will be considered to come within the scope of the appended claim.

Having thus described the invention, what is claimed as new and what it is desired to secure by Letters Patent of the United States, is:

In combination, a bathing suit, an inflatable chamber secured to the inner face of the front of said bathing suit, an inflatable chamber secured to the inner face of the back of said bathing suit, and an apron secured to the bathing suit in a position to overlie the inner wall of each of said inflatable chambers.

In testimony whereof I affix my signature.

EMANUEL DIAMOND.