3,441,963
INFLATABLE SAILING JACKET
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Claim 7
ABSTRACT OF THE DISCLOSURE
A sailing jacket having a built-in inflatable life preserver. The life preserver is a horseshoe-shaped unitary inflatable member having a large curved inflatable tube which extends out of the jacket at the shoulders; rests on the back when deflated and pops up behind the wearer's head when inflated.

This invention relates to sailing jackets and more particularly to a sailing jacket having a built-in inflatable life preserver.

Inflatable life preservers are known in the art and the patent literature contains jackets having inflatable members secured to the front of the jacket and in the collar. These jackets are unmistakable life preservers first and foremost. Considerations of style and design of the garment as a jacket are almost totally lacking. As a result, the emphasis is almost exclusively on the life saving aspects and the user would only wear such a jacket for that purpose. He would have to remove the thin, uncomfortable and attractive sailing jacket he would normally prefer to wear on and off the boat to put on such inflatable jackets for sea-going use. This he is reluctant to do, and consequently the accepted practice is to wear a separate life saving vest over one's normal sailing jacket. Such vests are inconvenient, bulky and must be separately stored and carried. Often the vest tends not to put it on—which of course defeats its immediate availability for emergency use.

Accordingly, the present invention has for its object, an inflatable sailing jacket in which the inflatable members are so arranged within the jacket to in no way conflict with the comfort and attractiveness of the jacket, so as to be accepted for wear both on board and on shore.

Another object of this invention is to provide an inflatable sailing jacket which retains thinness and comfort in its various portions comparable to an ordinary sailing jacket.

A further object of this invention is to provide a sailing jacket with a unitary horseshoe shaped inflatable member having its legs at the front of the wearer's upper torso and a large curved portion behind the wearer's head.

Another object of this invention is to provide an inflatable sailing jacket having a large head-supporting inflatable portion which also serves for attractive styling when normally deflated.

A further object of this invention is to provide a large head supporting inflatable member in a sailing jacket which normally lies flat upon the jacket and automatically moves to a position supporting the back of the wearer's head when inflated.

These and other objects of this invention will become readily apparent from the following description taken in conjunction with the drawings in which:

FIGURE 1 is a view of the front of the jacket in the deflated condition.
FIGURE 2 is a view of the back of the jacket in the deflated condition.
FIGURE 3 is a view of the front of the jacket in the inflated condition.
FIGURE 4 is a view of the back of the jacket in the inflated condition.
FIGURE 5 is a sectional view of a portion of the inflatable member taken through 5—5 in FIGURE 4.
FIGURE 6 is a sectional view of the air tight edge of the inflatable member taken through 6—6 in FIGURE 3.

Referring to the drawings, the sailing jacket, shown generally as 10, is comprised principally of right and left front breast portions 11, 12 and a back portion 13 joined together at their sides by side gussets 14, 15 and at their tip along shoulder seams 16. Sleeves 17, 18 are attached to the front and back portions and to the side gussets which extend down each sleeve. An elastic tape 19 is sewn within and around the end of each sleeve to hold the sleeve snugly around the wearer's wrist.

A draw string 20 is fitted around the bottom of the jacket in a hem 21 and serves to draw the jacket snugly about the wearer.

A collar 22 is attached to the front and back portions and has securely inserted within it snap fasteners 23 which, when the collar is turned up to expose them, fasten to mating fasteners on a companion hood, not shown, and snap fasteners 24 for closing the collar 22 around the wearer's neck. The front portions 11, 12 of the jacket are closed together by a strong large-link zipper 25 which extends up the jacket front. The jacket material throughout is strong, relatively lightweight synthetic fiber, such as nylon, which is rubberized on its inner face.

Certain of the joints, such as shoulder seams 16 are glued together under a combination of heat and pressure to effect a water-tight joint. Others, such as to the side gussets and the sleeves are stitched and have a tape of material glued over the line of stitching to adequately waterproof them.

The construction of the inflatable member will now be described. The inflatable member 30 is formed from a unitary piece of horseshoe shaped material 31 of the same fabric as the jacket. The downwardly disposed leg portions 32, 33 of the horseshoe piece are glued along their edges under heat and pressure to the inner faces of the front breast portions 11, 12, rubberized surface to rubberized surface. In this way, a pair of inflatable cavities or tubes are set into the front of the jacket, one at each breast portion 11, 12.

The U-shaped portion of the unitary horseshoe shaped piece 31 extends out of the jacket at the shoulder seams 16. A pair of short, wide T-shaped pieces 35 of synthetic material such as nylon, thicker than the jacket material, are glued at their cross arms 37 to the back portion 13 at each shoulder seam 16 and at their legs 36 to the unitary piece 31 as it emerges from within the jacket. These T-shaped pieces 35 are much less flexible than the jacket material and legs 36 are naturally bent to lie over the cross arm 37. In this way, the natural tendency for the U-shaped portion of unitary piece 31 is to fall back and lie upon the back portion 13 of the jacket.

The left and right front breast portions 11, 12 each have an extension 38, 39 unitary with it, which commences at the shoulder seam 16. These extensions take the same shape as the U-shaped portion of unitary piece 31 and are sealed to it along their respective edges. As shown in FIGURE 6 the seal is formed between a folded internal edge tape 40 of synthetic material such as nylon, thicker than the jacket material, which runs along the inside and outside edges of the U-shaped portions and are situated between them. A second folded edge tape 41 of similar thicker synthetic material runs along the inside and outside edges of the U-shaped portions and are situated over them. Hence a strong water-tight bond is formed at four material faces and the inside and outside
edges of the U-shaped portion of the inflatable member 30 defined in a permanent and positive manner. The front breast extensions 38, 39 are overlapped and bonded together at their ends, at about the midpoint of the U-shaped portion of the unitary piece 31.

This overlap is backed up by a rectangular piece 42 of thicker synthetic material such as nylon, to aid in making an air-tight joint.

From the above described construction, it can be seen that a single continuous horseshoe shaped cavity or tube 30 is formed having legs 33, 32 secured along the inside of the right and left front breast portions 11, 12 and a U-shaped portion which extends from the jacket shoulders 35 and lies flat upon the jacket back portion 13, in its deflated condition.

Gas for inflation the member 30 is provided in either of two ways. One is by a mouth tube 34 having a screw valve mouthpiece 43 and bonded to the jacket front over one of the inflated legs 32, 33. An outer patch 44 cooperates with a flange on the member 30 (not shown) to effect an air-tight seal to the jacket material which is bonded between them.

The other inflation means is by a CO₂ cartridge assembly 45 which is bonded to the jacket front over one of the inflatable legs 32, 33 in a manner similar to the mouth tube 34.

Both inflation means are known to the art and commercially available. For this reason the description of them has not been carried to considerable detail.

Whether the wearer will use the mouth tube 34 or the CO₂ cartridge assembly 45 will depend upon the circumstances at the time of his need to inflate the jacket. For prolonged use, once the cartridge has been used, it may be necessary to "top up" the inflatable member 30 from time to time with the aid of the mouth tube 42, or to add gas to fill inflatable member 30.

A flap 46 is disposed over the CO₂ cartridge assembly 45 and is snap fastened to the jacket front by fasteners 48. The mouth tube 34 is held upright and kept from swinging about by a tape 47 which is sewn to a patch sealed to the jacket front over an inflatable leg 33. In the event any additional plies of thin nylon material along each front breast portion 11, 12 and together with front extensions 38, 39 adds an arc of nylon material which rests neatly and indeed attractively on the back 13 of the jacket. The jacket is light, comfortable and convenient to wear and invites being worn everywhere an ordinary sailing jacket would be worn, both on land and on board. The bulging flap 46 and the mouth tube 34 are readily accepted from a style point of view, it has been observed. Soon they are taken as a material part of the garment and in essence, disappear from any special notice.

In any event, these members can be treated amenable to further styling by designers of jacket fashions.

Upon being inflated, a significant safety feature occurs. The continuous horseshoe shaped inflatable member 30 straightens itself out to the extent it is able, so that U-shaped portion will lift from off the jacket back 13 and extend straight from the leg portions 32, 33 as a large inflated tube arc behind the wearer's head. The inflated leg portions at the front of the jacket and the large inflated arc behind the wearer's head will aid the orientation of the wearer to a face up position in the water with the back of his head supported at or near the surface of the water.

Though this invention has been described in terms of one embodiment, it should be understood that variations and changes can be made without departing from the teaching of this invention, as covered in the following claims.

What is claimed is:

1. An inflatable jacket having a front, a back, an inflatable tube having a U-shaped external portion extending from the vicinity of each of the shoulders of said jacket to rest upon said back when in the deflated condition, means for inflating said tube, said inflatable tube comprising a sheet of flexible material having a pair of legs joined together by a connecting portion and sealed along each of said legs to the inside of said front as to form with said front a pair of leg portions of said inflatable tube, said connecting portion extending out of said jacket from the vicinity of each of said shoulders, and a sheet of flexible material extending from said front in the vicinity of each of said shoulder portions to said connecting portion lying on its respective edges so as to form said U-shaped external portion of said inflatable tube.

2. An inflatable jacket in accordance with claim 1 in which a pair of material pieces stiffer than said flexible sheet, each comprising a pair of arms having the natural tendency to overlie each other are sealed at one of said arms to said back and at the other of said arms to said flexible sheet at each of the places at which said sheet extends out of said jacket.

3. An inflatable jacket in accordance with claim 1 in which said front extension comprises a pair of flexible sheets permanently sealed to each other in the vicinity of their ends.

4. An inflatable jacket in accordance with claim 1 in which said front and said back come together at a pair of shoulder seams and said U-shaped portion extends permanently out of said jacket through said shoulder seams.

5. An inflatable jacket in accordance with claim 1 in which said front and said back come together at a pair of shoulder seams, said U-shaped portion extending out of said jacket through said shoulder seams, and a pair of material pieces stiffer than said U-shaped portion each comprising a pair of arms having a natural tendency to overlie each other are sealed at one of said arms to said back at each of said shoulder seams and at the other of said arms to said U-shaped portion.

6. A sailing jacket having a front and a back which come together at jacket shoulders, a built-up U-shaped unitary inflatable member and means for inflating said member, said member having a pair of inflatable leg portions joined together by an inflatable U-shaped portion large enough to extend externally from said jacket from mid-shoulder to mid-shoulder behind a wearer's head, said inflatable leg portion being sufficiently large and unrestrained to rest bent over upon said back when said member is deflated and to be lifted up behind a wearer's head by the straightening action of said member from said bent condition as it inflates.

7. A sailing jacket in accordance with claim 6 in which a pair of material pieces stiffer than the material of said U-shaped member, each comprising a pair of arms having a natural tendency to overlie each other are sealed at one of said arms to said back at each of said shoulders and at a natural tendency of said arms to said U-shaped member.

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MILTON BUCHLER, Primary Examiner.
THOMAS W. BUCKMAN, Assistant Examiner.

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